

Senate Hearings

Before the Committee on Appropriations

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PT. 1

Department of the Interior and Rela...

Department of the Interior and Related Agencies Appropriations

Fiscal Year 1996

104th CONGRESS, FIRST SESSION

H.R. 1977

PART 1 (Pages 1-1145)

DEPARTMENT OF AGRICULTURE
DEPARTMENT OF ENERGY
DEPARTMENT OF HEALTH AND HUMAN SERVICES
DEPARTMENT OF THE INTERIOR
NATIONAL ENDOWMENT FOR THE ARTS
NATIONAL ENDOWMENT FOR THE HUMANITIES
SMITHSONIAN INSTITUTION

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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS UNITED STATES SENATE ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

ON

H.R. 1977

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1996, AND FOR OTHER PURPOSES

PART 1 (Pages 1-1145)

Department of Agriculture
Department of Energy
Department of Health and Human Services
Department of the Interior
National Endowment for the Arts
National Endowment for the Humanities
Smithsonian Institution

Printed for the use of the Committee on Appropriations



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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

WEDNESDAY, MARCH 1, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:30 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Slade Gorton (chairman) presiding.

Present: Senators Gorton, Bennett, Stevens, Domenici, Leahy, Bumpers, Reid, and Murray.

NATIONAL ENDOWMENT FOR THE ARTS

STATEMENT OF JANE ALEXANDER, CHAIRMAN

BUDGET REQUEST

Senator GORTON. The subcommittee will come to order. I need to begin by saying that, as I suspect all of you know, the Senate convenes at 10 a.m. The Senate can engage in no business other than the vote on the balanced budget amendment. It is certainly possible that it will recess while further negotiations go on, but it may well be that at 10 a.m., we will either have to end this hearing or, more likely, recess it for an indefinite period of time.

For that reason, I am going to simply include my rather lengthy opening remarks in the record as if read in full, and I will try to summarize publicly what I have already discussed with Ms. Alexander privately on a constructive visit to my office in remarks that apply equally to the two Endowments.

Each of those Endowments is faced with three hurdles during the course of debate this year. The first, of course, will be their treatment in general terms in a budget resolution which is likely to be produced and debated in the Senate in May.

That budget resolution will set overall spending targets and ceilings for the next year, and to a certain extent for the 4 succeeding years, and will include certain assumptions about all of the programs included within the jurisdiction of this subcommittee.

That budget resolution may treat the Endowments generously, it may treat them on the basis that they will be cut, it may treat them on the basis that they will not be supported at all. I simply do not know what the answer to that question is, and it will not be binding. However, its figures for the amount of money likely to be available to this subcommittee may very well have great influ-

ence over the direction in which this subcommittee will be able to go.

The second challenge that faces the Endowment is that of reauthorization. Reauthorization hearings have begun in the Committee on Labor and Human Services. Again, we do not know what fate will await the Endowments there. Obviously, the activities of this subcommittee will be significantly influenced by those reauthorization hearings and any subsequent action.

Finally, of course, we will be faced with the usual contest among many and disparate programs that are under the jurisdiction of this subcommittee. The President's budget calls for an increase of about 2 percent in the appropriations under the jurisdiction of this subcommittee across the board.

I am convinced that that is a high water mark and that, in fact, when we get our allocations they are more likely to call for an overall reduction rather than an even modest overall increase, and in that connection, of course, the Endowments both as a matter of policy and as a matter of fiscal need will be competing with all of the other priorities that this committee has.

I want to give Ms. Alexander all the opportunity that she needs. I know you have an opening statement. I hope you will not just read it word for word. We will include that in the record as well.

We would like to hear from you. We would like to hear not only your general justification for the National Endowment for the Arts, but specific plans that you have for any changes that you may have come to.

Very bluntly, I am going to ask you to deal with a particular set of questions concerning this year's fiscal priorities. Leaving aside any ideological debates whatsoever, if fiscal necessity were to call for the continuation of the Endowment, but with a reduction of the amount of money available for it of, say, 50 percent, although this could be any such figure, I would like to know whether or not, under those circumstances, it would be your design that some functions of the Endowment would simply be abandoned in order that others could be supported more generously, or whether it would be your inclination pretty much just to cut everything across the board that is within your jurisdiction by roughly the same percent that the Endowment's total appropriation were cut?

You can do that orally now, or you can think about it and do it later.

Senator Leahy.

OPENING STATEMENT OF PATRICK J. LEAHY

Senator LEAHY. Mr. Chairman, in the absence of the ranking member, I will put my statement in the record. I would just note a couple of things very quickly. I do not want to cut into Ms. Alexander's time; we want to hear from her and she from us. I do think we are entering into a debate about whether reason is going to prevail or hysteria.

We are not going to balance our budget by eliminating NEA and NEH. We have seen opponents of Federal support to the arts and humanities single out a tiny, tiny portion of the thousands of grants that have been given out over the years and take those tiny,

tiny numbers and say those are objectionable; thus we should throw the baby out with the bath water.

Well, I find some of them objectionable, but we ought to ask ourselves how often do we eliminate an entire agency for a few bad grants? If we followed that, if we said if an agency ever made a mistake we ought to get rid of it, we would be in a form of unilateral disarmament, because I do not think we would have our Department of Defense.

Some may recall the DOD has made a couple of mistakes over the years. I think of costs of hammers and other things, and if we closed down the Pentagon just because it made a few bad contracts or developed a couple of systems that did not work, we would not have a Department of Defense.

PREPARED STATEMENT

The same as the NEA and the NEH, but I am afraid that they have become political symbols, and we are ignoring the great good they do in every single State in this country.

So, Mr. Chairman, I put my full statement in the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR PATRICK J. LEAHY

Mr. Chairman, the debate over funding for the NEA and NEH is not about making tough budget choices. This is a debate over whether reason will prevail over hysteria.

The Federal deficit is out of control and Congress must continue to make tough choices to get our fiscal books in order. But we are not going to balance the budget by eliminating Federal funding to the arts and humanities.

Opponents of federal support for the arts and humanities have singled out a tiny fraction of the total grants provided across the country as objectionable. I, too, have found several of the projects which received funding personally disturbing.

But since when does Congress eliminate an entire agency for a few bad grants? The Department of Defense would have been abolished long ago if it had been held to a similar criteria that a few bad contracts were justification for closing down the Pentagon.

NEA and NEH have unfortunately become political symbols for groups that objected to that tiny fraction of grants. I strongly believe, however, that NEA and NEH are a worthy investment—even in these times of fiscal restraint.

Promoting the arts and humanities is much more than awarding grants. These agencies promote programs that foster the healthy artistic and cultural weave that binds our diverse society together. I need to look no further than my home state of Vermont to see why we must maintain adequate federal funding for NEA and NEH.

It is easy to review lists of the "grant awards" that have been made in Vermont or any other state. Such a shallow approach belittles the work done by NEA and NEH. These grants keep our culture vibrant and remind all of those who they touch how fortunate we are to live in these United States.

Let me highlight some of the programs in Vermont and show how the benefits far exceed the minor investment we make to promote the arts and humanities.

The Folklife Center is one recipient in Vermont of an NEA challenge grant. The Center enriches Vermonters of all ages by displaying the beauty and importance of the artisans and their crafts of basketry, quilting, stonework, slate and granite carving.

Art programs benefit the entire community. The Catamount Film and Arts Co. in a very rural part of Vermont, known as the Northeast Kingdom, has earned a national reputation for excellence in programming and community service. The \$5,000 that they receive from the NEA enables them to present over 25 live performing arts events each year.

Over 5,000 Vermonters visited the Rutland Region Ethnic Festival last year thanks to support from the NEA. Everyone enjoyed entertainment and a variety of foods from around the world.

The Mother Goose program promotes literacy throughout Vermont by encouraging parents to read with their children. A special part of this program is dedicated to teen parents.

These are just a few examples of the thousands of non-controversial grants that NEA and NEH award in every state. I want to commend Jane Alexander and Sheldon Hackney. Both of you have dedicated your lives to promoting the arts and the humanities. You have recently been working tirelessly to demonstrate how important NEA and NEH are to our nation.

I would like to work with you to continue a strong NEA and NEH.

LETTER FROM THE VERMONT COUNCIL ON THE ARTS

Senator Patrick Leahy
 Russell Senate Office Building
 Washington, DC 20510

February 27, 1995

Dear Senator Leahy:

I am writing to encourage your continued support for the National Endowment for the Arts. In my view, the NEA has been an effective tool over the years to increase the opportunities for all Americans to participate in the cultural life of this country. The small investment of the federal government is a significant contribution to the intricate structure of arts production and delivery that has expanded enormously in the past 30 years.

This has been particularly true in Vermont. In 1966, there were only five arts organizations in Vermont. In 1994, there are over five hundred. A 1992 economic impact study revealed that Vermont arts organizations had a \$116 million impact on the economy up from \$29 million in 1978. Unfortunately, we have no studies that have looked at the economic impact of individual artists such as craftspersons, but we do know that according to an analysis of 1990 U.S. census data, there are also over 4,000 artists who reside in the state. This is an increase of 89% from 1980.

The investment of NEA dollars has spurred growth and development in the arts in Vermont through direct grants to organizations and artists and through the Vermont Council on the Arts. Small communities such as Rochester have energized themselves as well as larger communities such as Brattleboro and Burlington with NEA funding.

I believe that there is a federal role for the cultural industry of this country just like there is for programs that help business and agriculture. Here is a list of current programs the NEA supports directly or indirectly through the Vermont Council on the Arts:

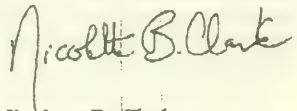
- A network of six local arts councils involved in community development activities such as revitalizing neighborhoods and downtown districts.
- A consortium of arts presenters that bring the world's best performers to Vermont for all to enjoy in every corner of the state.
- Training in the design arts for community members serving on planning and zoning boards.
- Vermont's First Night Celebrations in Burlington, St. Johnsbury and Rutland and an array of summer festivals that showcase Vermont artists for visitors and residents alike.
- A planning and technical assistance program to improve the cultural facilities and programs so that people with disabilities will have the same opportunity to participate in arts events as others.
- The Vermont Folklife Center that keeps the traditional arts alive for future generations to come.
- Approximately 10,000 Vermont children each year to developing their knowledge and skills in the arts through the Arts in Education programs of the Vermont Council on the Arts.

- Nine Head Start programs engaging young children in age appropriate arts activities to help them develop visual and kinesthetic skills they will need in school.
- Human service agencies and arts organizations in nine sites partnering to find positive self-esteem building projects for hundreds of young people at risk.

All of these programs are threatened if the National Endowment for the Arts is abolished or seriously curtailed. In the grand scheme of things, the \$.64 per person that it costs taxpayers is a good investment demonstrating leadership and leveraging other funding sources. In my mind, it is the kind of small investment with big results that people want from their government.

Thank you for continuing to fight for the National Endowment for the Arts and its sister agency the National Endowment for the Humanities. It is a wise investment in our future.

Sincerely,



Nicolette B. Clarke
Executive Director

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Senator GORTON. At this time I would like to insert into the record a prepared statement submitted by Senator Thad Cochran. [The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, I am pleased to welcome Jane Alexander and Sheldon Hackney to the subcommittee today.

In Mississippi, the National Endowment for the Arts provides close to 50 percent of the total spending for the arts—including State and local funding for the Mississippi Museum of Art, the symphony, ballet, folk arts programs, community theater, arts in the schools and all other public cultural activities. Not only does this national program help to leverage additional State and local support for the arts and humanities, it ensures that people in every region of our country have the opportunity to enjoy enriching cultural activities.

It is my hope that this subcommittee will be able to fund the Arts and Humanities at levels sufficient to provide support to States, as well as national cultural institutions and programs that emphasize broad public access.

SUMMARY STATEMENT OF JANE ALEXANDER

Senator GORTON. It will be so included, and now, again, with our possible time pressure, we certainly want to hear from you, Ms. Alexander.

Ms. ALEXANDER. Thank you, Mr. Chairman. Thank you, Senator Leahy.

I would like to submit my written testimony for the record, and speak to you just briefly, if I may, about what I think has come before us at the Endowment, and what the committee is interested in addressing.

We request \$172.4 million, an increase of \$5,000,000, for the National Endowment for the Arts for fiscal year 1996. We are mind-

ful—we are very mindful of the budget-cutting that the Federal Government is interested in implementing. However, we would like to point out that the Endowment has been consistently cut for the past 3 years, and we would like you to keep that in mind.

It is difficult, at best, for us to maintain the funding that is needed for the institutions in the United States, and we fear that with another significant cut we would lose more institutions, and more employees, and more quality of life in those localities.

NATIONAL ROLE OF THE ENDOWMENT

There is a question on the table about the Federal role in the arts. Let me just say that there is no duplication for the Federal role in the arts in the United States of America. Of course, all great industrialized nations of the world support their arts institutions and their artists.

There is no substitution for national recognition of excellence. There is no substitution for leadership today in arts education except through the Endowment in partnership with the Department of Education.

There is no substitution for an international presence in the arts. There is no substitution for significant touring throughout the States. The regional arts organizations help us somewhat, but we are the ones that are the impetus behind the significant touring of children's theater and dance primarily throughout the United States and abroad.

There is no substitution for national overview. Nobody does what the National Endowment does in terms of convening private citizens as panelists from across the country to review the applications that come to us from all over the country.

There is no substitute for leadership in design, literature, and so on, certain areas that have no national voice at present. The same, I may say, would go for the large folk arts and traditional arts organizations that we have brought together.

There is no substitute for convening national bodies. In fact, I would venture to say that if the Endowment did not exist today, you would have to invent it. We have made so many changes with regard to the proliferation of arts organizations and the National Association of State Arts Councils that sprung up since the Endowment came into existence 30 years ago.

INTERNAL AGENCY CHANGES

I would also like to point out that since I became chairman 16 months ago, I have made a number of changes. We have been criticized repeatedly through these past 15 months, for things that very often are already in the process of being changed or have been changed under my chairmanship.

I have visited, as I told you, all 50 States and more than 130 cities and communities in the United States, because the independent commission task force in 1990 stated that the NEA needed to make itself more known to the American people and discuss what we do for them in their communities. So, I took that seriously and I went around and I visited these many towns and communities to hear what they wanted from us, and to let them know what we were doing for them in their communities.

I have implemented some changes within the agency itself. One of them is to what we call seasonal support. We will continue to give seasonal support to worthy organizations based on the excellence of their record, but within that seasonal support, the Endowment's portion is small, comparatively, to the overall programming of the organization. We reserve the right, now, to allocate our funds, our Federal funds, to the programming of our choice within that seasonal support.

I have also eliminated the agency's subgranting in the agency. I have done this because I did not think that a middleman was the most efficient way to distribute money. There was an overhead cost that was not efficient to my mind, and I also was concerned about the criteria of some of the panelists that they convened. They did not seem to meet the rigorous standards we use at the Federal level.

I have made sure that if somebody changes the scope of their application, that they have to resubmit their new changes to the Endowment before we will release money to them, and it is no guarantee that we will award them if they change the scope of their application.

I have asked for interim reports, or progress reports before any organization draws down its entire money. This is to make sure that, in fact, they are doing what they said that they would do when they received the grant.

I have clustered a number of programs in the Endowment in order to streamline the agency and work most efficiently. Specifically, I brought together museum and visual arts programs. I have also combined presenting opera, musical theater, and music under one program director, and we are looking at more ways to cluster and streamline within the agency.

INDEPENDENT COMMISSION REPORT

We also took very seriously the Brademas Garment Independent Commission Report that I referred to one minute ago which came out in 1990. I would like to enter into the record, if I may do so, a report on the status of our implementation of the commission's recommendations. Virtually every suggestion that the commission made, we have either implemented administratively, or through legislation over the past few years.

Senator GORTON. The report will be part of the record.
[The information follows:]

THE INDEPENDENT COMMISSION'S REPORT TO CONGRESS

In 1989, Congress created an Independent Commission to review the National Endowment for the Arts' grant making procedures, including the panel system, as well as the standard for public funding. The twelve-member commission was composed of individuals appointed by President Bush, the Speaker of the House of Representatives and the President pro tempore of the Senate (after consultation with the minority leaders of both houses).

The Independent Commission issued "A Report To Congress On The National Endowment For The Arts" in September, 1990. The Report contains 30 formal recommendations which are printed in bold below followed by the current status of their implementation.

Recommendations on "...whether the standard for publicly funded art should be different than the standard for privately funded art"

- 1) The Independent Commission finds that the standard for publicly funded art must go beyond the standard for privately funded art.**

The Endowment's authorizing statute was amended in 1990 to state that "public funding of the arts and humanities is subject to the conditions that traditionally govern the use of public money. Such funding should contribute to public support and confidence in the use of taxpayer funds. Public funds provided by the federal government must ultimately serve public purposes the Congress defines."

Privately funded art need not be subject to any standard beyond that used by the funder (e.g. individual aesthetic taste). NEA standards go further, demanding that both excellence (the artistic criteria) and merit (for example, the relationship of the applicant with the community) be taken into account.

- 2) The Independent Commission reaffirms that the guiding standard for grant making by the National Endowment for the Arts must be artistic excellence.**

The Endowment's authorizing statute was amended in 1990 to provide that panels review applications "solely on the basis of artistic excellence and artistic merit." All program guidelines now include artistic excellence and merit as primary review criteria.

- 3) The Independent Commission reaffirms the several other purposes, articulated in the present statute, for the public funding of art.**

The 1990 authorizing statute retained the purposes identified by the Commission. In noting that the NEA has a responsibility to promote the general welfare, the Commission reaffirmed the importance of purposes such as meeting professional standards of authenticity; encouraging artists to achieve standards of excellence; reaching or reflecting the culture of a minority, inner city, rural or tribal community; and encouraging public knowledge, understanding, and appreciation of the arts.

- 4) The Independent Commission recommends that the preamble of the legislation that authorizes the National Endowment for the Arts be amended to make clear that the arts belong to all the people of the United States.**

This provision was added to the authorizing statute in 1990.

5) The Independent Commission recommends that in order to assure that the National Endowment for the Arts operate in a manner accountable to the President, Congress and the American people, the procedures of the Endowment for scrutiny and evaluation of applications for grants be reformed.

The Commission listed the following reforms: (1) Strengthening the authority of the Chairperson; (2) making the National Council more active; (3) eliminating real or perceived conflicts of interest; (4) assuring that evaluation of grant applications be fair, accountable and thorough; (5) clarifying the function of the grant advisory panels and broadening their membership to make them more representative; (6) and making clear that the NEA belongs not solely to those who receive its grants but to all the people of the United States.

The 1990 legislation incorporated most of these reforms. It gave the National Council the ability to reject grant applications; conflict of interest provisions were adopted; panel membership was diversified; and a layperson was required on every panel. The Endowment adopted new Standards of Conduct for Panelists as well as for National Council members which are strictly adhered to. Panel diversity is assured by regular rotation of panel members and selection of a cross-section of members based on geographic, gender, racial and aesthetic factors. The National Council now reviews applications in Working Groups to assure thorough evaluation of applications and additional changes to facilitate Council review of applications are under consideration.

Recommendations on "...The National Endowment for the Arts grant making procedures, including those of its panel system..."

A. Concerning the NEA Chairperson

1) The Independent Commission recommends that the sole authority of the Chairperson to make grants be made explicit in legislation.

The Endowment's authorizing statute was amended in 1990 to expressly provide that the Chairperson has "final" authority to approve each application except when the National Council on the Arts rejects an application, which is treated as a final rejection.

2) The Independent Commission recommends that in order to carry out his responsibilities more effectively, the Chairperson be given more authority and more choices.

a. The Independent Commission affirms the authority of the Chairperson to select policy-level staff, including Deputy Chairpersons and Program Directors and to determine their tenure. Staff must be accountable to the Chairperson rather than to the particular artistic fields or disciplines with which they work.

The Endowment's policy-level staff is appointed directly by the Chairman. None of the three current Deputy Chairpersons (Programs, Partnership, and Management) comes from a specific artistic field. The newly appointed Program Directors (Omus Hirshbein (Music/Opera-Musical Theater/Presenting), Samina Quraeshi (Design), and Jennifer Dowley (Visual Arts/Museum)) all have national stature in their respective fields.

The Management Deputy is a career position, the other two are non-career positions. Program Directors have two-year renewable term appointments. Under Chairman Alexander, Program Directors have

been named in Music, Museum, Presenting, Visual Arts, Design, Challenge, and Expansion Arts. A search is underway for Program Directors for Media, Theater and Dance.

b. The Independent Commission recommends that the Chairperson be given a range of options beyond the ratifying of decisions made by the staff or by grant advisory panels. In particular, a system should be established to require that the grant advisory panels and the National Council recommend more grants than funds available for them, thereby giving the Chairperson a genuine choice in awarding grants.

The Endowment is considering the recommendation that panels and the Council recommend more grants than funds available. Concerns have been raised about both the additional administrative burdens that such a rule would impose and the loss of the valuable collective thinking of panelists and Council members regarding which applications are the most worthy of funding at various levels.

At present, panels recommend specific grant levels for recommended applications, subject to increase or decrease by both the Council and the Chairman. The Endowment is considering the recommendation that panels not recommend specific grant levels, but again is concerned about both the additional administrative burdens and the loss of the valuable collective thinking of expert and lay panelists regarding the appropriate allocation of funds and the relative strengths of applications.

The Chairman now has a wide range of options beyond agreeing with panel recommendations. She retains sole authority to accept or reject the recommendation of the National Council that a particular application be funded. She also has the authority to make grants under \$30,000 without panel or Council review and to reallocate funds between programs or categories.

c. The Independent Commission recommends that the Chairperson act to ensure that the members of grant advisory panels have no real or perceived conflicts of interest.

This recommendation has been fully implemented with the issuance of new Standards of Conduct for Panelists and rigorous application of conflict of interest rules for panel service.

d. The Chairperson must also act to ensure that the membership of panels represents a variety of aesthetic or philosophical views.

This recommendation has been implemented through an Administrative Directive on the Panelist Selection and Approval Process, the creation of an automated Panel Bank System (APBS), instructions to staff and Program Directors, and close review by senior management of panel suggestions.

e. The Independent Commission recommends that the Chairperson exercise greater authority over the development of program guidelines.

The Chairman and senior staff closely monitor the development of program guidelines, with input from both program staff and panels. All Endowment guidelines must be coordinated through the Associate Deputy for Program Coordination. Program guidelines have been revised to incorporate a number of substantive changes under Chairman Alexander. Changes in review criteria have been made to improve accountability, emphasize artistic excellence, and encourage outreach to underserved communities.

f. The Independent Commission recommends that, in the interest of administrative efficiency and careful evaluation, the Chairperson from time to time, review the number and scope of grant advisory panels and where necessary make changes.

This recommendation has been implemented. The APBS can provide the Chairman with a variety of accurate, statistical information regarding panels. The Endowment is working to consolidate and reduce the number of panels where practical and prudent. Panel numbers and costs were reduced in 1994 and will likely be further reduced in 1995.

3) The Independent Commission recommends that the term of the Chairperson be coterminous with that of the President.

The Endowment's authorizing statute does not contain this provision. In 1992, however, the then-Acting Chairperson resigned at the end of the President's term. Chairman Alexander was appointed to a four-year term on October 8, 1993.

B. Concerning the National Council on the Arts

1) The Independent Commission recommends, in order to provide another tier of independent and comparative review of grant applications, that the Chairperson form "Committees" of the National Council.

This recommendation has been implemented. There are Council "committees" that are issue-driven and work year round in specific areas such as Arts in Education, Planning, Design, and Operations. Council "working groups" convene in advance of Council meetings and spend a full day discussing panel recommendations with the Program Directors. Meetings of the working groups are closed due to their informational rather than deliberative nature.

2) The Independent Commission recommends that the meetings of the full National Council be open and endorses the decision of the Endowment to do so.

This recommendation has been implemented. As the Commission recognized, the Council retains authority to go into executive session as appropriate.

3) The Independent Commission recommends that the meetings of the Committees of the National Council be closed.

This recommendation has been implemented in that working group meetings and committee meetings are closed in accordance with Federal Advisory Committee Act (FACA) regulations which allow closure of non-deliberative meetings.

C. Concerning Grant Advisory Panels

1) The Independent Commission recommends that the Endowment continue to ask panels of outside advisers - the grant advisory panels - to consider the artistic merit of applications for grants.

This recommendation has been implemented. In 1994, the Endowment used advisory panels involving nearly 1,000 different panelists, including laypersons who are knowledgeable about the arts, to consider approximately 16,500 applications.

2) The Independent Commission recommends that the grant advisory panels be one of several sources of advice to the Chairperson and National Council. The Chairperson has final authority in the grant making procedure. The grant advisory panels are the first step in the review process.

Panels are simply the first of three independent levels of review. Following panel meetings, the Chairman has regular meetings with the Deputy Chairmen and Senior Deputy, meets with Program Directors, participates in post-panel reviews with staff, reviews Council pages, and is in regular contact with the National Council.

The National Council on the Arts is the second independent level of review; when the Council votes to reject an application, that action is final. The third independent level of review is the Chairman, who makes final decisions on whether or not to fund those applications recommended for support by the Council.

3) The Independent Commission recommends that the primary responsibility of the grant advisory panels be to evaluate the artistic merit of grant applications.

This recommendation has been implemented. The Endowment's authorizing statute, as well as all program guidelines, provides that panels review applications "solely on the basis of artistic excellence and artistic merit." A Panelist Handbook has been developed and is mailed to panelists in advance of panel meetings in order to clarify the panels' function in reviewing applications.

4) The Independent Commission recommends that the conflict of interest rules of the National Endowment for the Arts be strengthened.

a. The Independent Commission recommends that anyone affiliated with an institution which has a grant proposal pending before the NEA should not sit on a panel reviewing such grants.

This change has been fully implemented in the Standards of Conduct which are carefully observed.

b. The Independent Commission recommends that the Endowment consider the following options for restructuring the grant advisory panels:

- 1. Multiple panels.**
- 2. Multi-year grants.**

Multiple or split panels have been implemented in many Endowment categories. Multi-year grants are used in several categories (Challenge, Advancement, State & Regional, etc.) More extensive use of multi-year grants is under review and pilot programs of biennial application review are under way in the Music Program categories.

c. The Independent Commission recommends that the pool of advisers sitting on grant advisory panels be expanded.

- 1. People who do not earn their living in the arts should be part of the pool.**

This change has been implemented. Every panel includes at least one layperson who is knowledgeable about the arts but not engaged in the arts as a profession.

- 2. Regional representatives of the Endowment who play an essential role in its function, as well as officials from state and local arts agencies should be invited on a more systematic basis to recommend possible panelists.**

For budgetary reasons, the Endowment no longer utilizes regional representatives. Nonetheless, the Chairman routinely solicits

recommendations for panelists, including making this opportunity known during her travels to the 50 states. Panelists recommended by federal, state, and local arts agencies and other officials are included in the automated panel bank system. Suggestions from members of Congress have been solicited and always are welcome. A Panelist Profile form has been developed and is used to enter new names into the APBS.

- d. **The Independent Commission recommends that the present rules governing the rotation of panelists be retained, with panelists appointed for one-year terms, renewable for a maximum of three years. In addition, any panelist who serves for a continuous period of three years should not be appointed by the Chairperson to serve again on any panel until the end of a one-year period.**

This change has been implemented in light of the recommendation and the 1990 statutory changes. In 1994, 88% of panelists were new: 44% of all panelists were first timers, and another 44%, while they may have served before on a different panel, were first timers on that particular panel.

- 5) **The Independent Commission recommends that the grant advisory panels be given adequate information about particular applications, and emphasizes the importance of site visits.**

Language was added in 1990 to require site visitations where "necessary and feasible." The Endowment continues to review the panel process for consideration of applications to assure that panels receive adequate information, including site reports, whenever appropriate and feasible.

- 6) **The Independent Commission recommends that the National Endowment for the Arts provide more information to the public, particularly potential applicants.**

This recommendation has been implemented. The Endowment constantly strives to provide comprehensive, high quality information to both applicants and the general public. The Chairman spent the first year of her tenure visiting all 50 states, bringing the message about the Endowment's work to the American people. The Endowment strives to be responsive to every information request. In particular, the Public Information Office, Office of Public Affairs, Congressional Liaison, Programs, and Chairman's office answer dozens of requests for information every day. The Endowment is exploring means to disseminate information electronically and has recently developed a comprehensive new brochure called "America in the Making." Other Endowment publications include the Annual Report, Guide to the National Endowment for the Arts, "Arts Corps -- the first three years," and "Part of the Solution -- Creative Alternatives for Youth" (a joint publication with the National Assembly of State Arts Agencies and the U.S. Department of Justice).

- 7) **The Independent Commission recommends that post-award evaluation procedures at the Endowment be reviewed and improved.**

This recommendation has been implemented in the authorizing statute by requiring progress reports and final reports, both descriptive and financial, from grantees. The Endowment reviews and improves its reporting requirements and its post-award evaluation procedures on a continuing basis.

- 8) **The Independent Commission recommends that the meetings of the grant advisory panels continue to be closed.**

This recommendation has been implemented. Virtually all panel meetings are closed during application review.

9) The Independent Commission recommends that once the Chairperson has made his or her decisions on grants, applicants whether individuals or institutions, have access to the reasons their applications were accepted or rejected.

This recommendation has been implemented. Program specialists are available for comment and written summaries of panel proceedings are prepared for applicants on request. In addition, the Endowment has a formal, published procedure for reconsideration of rejected requests.

D. Concerning Partnerships Among Public and Private Sectors

1) The Independent Commission recommends that the matching principle that governs much of the grant making of the National Endowment for the arts be reaffirmed.

This recommendation has been implemented. All grants to organizations are subject to at least a one-to-one match; Challenge and Treasury grants must be matched at least three to one.

2) The Independent Commission recommends that the Challenge Grant program be singled out as a particularly effective mechanism for encouraging partnerships in support of the arts between the federal government, on the one hand, and, on the other, the private sector, and local and state governments.

The Challenge Program continues to be extremely effective, at least in part because of the requirement of a three-to-one match.

3) The Independent Commission recommends that the present statutory formula, which allocates twenty percent of endowment funds to state art agencies, be maintained.

This formula has been increased by the 1990 statute to allocate 27.5% of Endowment program funds to the states. An additional 7.5% of program funds are available for projects in underserved areas managed by state arts agencies, as mandated by the Congress.

4) The Independent Commission recommends that the roles and responsibilities of the components of the public funding partnership - the NEA, state arts agencies and local arts agencies - merit further study.

As part of its planning process, in June 1994, the Endowment initiated a series of meetings with leaders of state, local, and regional arts agencies and arts service organizations to explore ways in which we can maximize the public investment in the arts. To date this group, working with Endowment staff, has reviewed the activities, roles and strengths at each level of the partnership. It has explored in particular detail ways in which the public partners can coordinate and maximize their investments in support of literature and orchestras. This work will continue and will help to inform the development of a long-range plan that makes the most of the Endowment's partnerships with state, local and regional agencies.

In addition, the Endowment is working to further both private partnerships, through regular meetings with private foundations, and interagency partnerships with other federal agencies through its newly established Federal Liaison.

- 5) **The Independent Commission encourages the National Endowment for the Arts to collaborate to a greater extent with state and local arts agencies and with other sectors of society to advance arts education.**

Through its Partnership category, the Endowment's Arts in Education Program has worked with state arts agencies to strengthen their efforts to include the arts in the basic curricula of their schools. Through its Arts Plus category, the Program supports ongoing partnerships with arts organizations that work with schools or school districts to develop sequential, curricular-based arts education programs. Through its National Impact Grants and Special Projects, the Program supports important components of educational reform through the arts. In particular, the Endowment worked with the arts education community to ensure inclusion of the arts in the Goals 2000: Educate America Act as a core subject for all American students and continues to work on the implementation of Goals 2000.

Recommendations on the Issue of Obscenity and other Content Restrictions

- 1) **The Independent Commission affirms that freedom of expression is essential to the arts.**

The Endowment agrees with this position.

- 2) **The Independent Commission recognizes that obscenity is not protected speech and that the National Endowment for the Arts is prohibited from funding the production of works which are obscene or otherwise illegal.**

The Endowment is prohibited from funding and does not fund obscene works. The 1990 legislation added specific prohibitions to make clear this position. Grantees whose work has been determined to be obscene by a court of law are required to refund the grant award to the U.S. Treasury and are prohibited from receiving further funds until such repayment is completed. There have not been any obscenity determinations of Endowment-funded works.

- 3) **The Independent Commission believes that the National Endowment for the Arts is an inappropriate tribunal for the legal determination of obscenity, for purposes of either civil or criminal liability.**

The changes made in 1990 to the Endowment's authorizing statute provide that courts are to make the determination of obscenity.

- 4) **The Independent Commission recommends that the National Endowment for the Arts rescind its current requirement that grantees certify that the works of art they propose to produce will not be obscene.**

This recommendation has been implemented -- grantees are no longer required to take an "obscenity oath" (which had been found unconstitutional in two federal court challenges).

- 5) **The Independent Commission recommends against legislative change to impose specific restrictions on the content of works of art supported by the Endowment. Content restrictions may raise serious constitutional issues, would be inherently ambiguous and would almost certainly involve the Endowment and the Department of Justice in costly and unproductive lawsuits.**

The Congress added content restrictions, including a provision on "decency," to the Endowment's authorizing statute in 1990. The "decency" provision was found unconstitutional by a federal district court decision that is currently on appeal to the United States Court of Appeals for the Ninth Circuit.

ONGOING INTRA-AGENCY REVIEW

Ms. ALEXANDER. Finally, at the Endowment, we have a number of ongoing reviews that we are conducting. The entire process of paneling is under review. We are looking at that carefully.

We are looking at funding parameters. We are looking at things like multiyear funding, we are looking at consolidation of program categories, we are looking at caps—that is, the number of times either an organization or an individual can receive a grant.

We are sitting down with our States and local organizations and talking to them about who does what best. We think that it is very important.

REVIEW SCHEDULE

Senator GORTON. To go back to these things that you are looking at, do you have any kind of schedule as to when you believe you will reach a decision on those things?

Ms. ALEXANDER. Yes; I think that with funding parameters we have a real possibility of making decisions within the next 2 months.

Senator GORTON. Go ahead.

ROLE OF NATIONAL COUNCIL

Ms. ALEXANDER. The National Council on the Arts now has a number of subcommittees and they take a very active role at the Endowment, and they will continue to do so. We are looking always at our programs and our categories carefully to find ways we can consolidate and reduce.

PRIVATIZATION AND COPYRIGHT

There is another thing that is floating in the wind about privatization and the different possibilities of privatization. First and foremost, I have to stress again that there is no duplication for the Federal role, and I would hope that any privatization plan would not be a euphemism for elimination of the agency, but would, in fact, represent supplemental income for the agency. Careful assessment needs to be given as to what might possibly work.

Ideas are floating about copyright, and the possibility of the Endowment receiving a percentage of copyright extension. Ideas are floating about taxes of one sort or another, or tax checkoffs. There are a number of ideas that I really feel merit very careful consideration, and I would like to put together a task force to do that. In fact, I have met privately with a number of individuals across the country to get their ideas, and there are some ideas that may be viable. There are many that are not, I feel.

FISCAL YEAR 1995 RESCISSIONS

Finally, we are concerned at the agency about a rescission to our fiscal year 1995 unobligated funds. As you probably know, the House Interior Subcommittee has passed a rescission of \$5 million to our agency—\$1 million targeting our administrative budget and \$4 million targeting our individual fellowships.

The individual fellowship funds remaining unobligated, in fact, do not represent \$4 million at this time. However, individuals are

the backbone of art. Art is created by individuals, and an individual in collaboration with others is what creates the performing arts, the visual arts, and other arts. The individual is always the basis of everything, and I think we need to shore up and understand why we fund individuals in our society.

PREPARED STATEMENT

We fund the individual scientist, and we fund the individual scholar in the world of academics. The world of art is no different. The individual is where all art begins and ends.

Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF JANE ALEXANDER

Thank you Mr. Chairman, Members of the Committee. I am pleased to be able to speak to you today about the National Endowment for the Arts. We request \$172.4 million for the agency for fiscal year 1996. This investment includes modest support for existing Endowment programs while making limited funding available for new national leadership initiatives.

An appropriation of \$172.4 million works out to about 66 cents per American per year, or about two cents more than our current investment of 64 cents. We want America to be the best in the arts. Recently, our counterparts in Australia sent me their new publication *Creative Nation* which outlines the directions of their arts endowment. The Australian Government invests billions of dollars in the arts, particularly film, television and new technology. They are forward-looking, ready to meet the challenges of the 21st century, and realize a national investment in Australian culture is crucial to competing in the global economy. The result is that the Australian film industry is capturing a greater share of the world market, and they are poised to be world leaders in art and the new technologies. The lesson is simple: the arts are a smart investment.

The second leading balance of trade item for the United States of America is in the commercial arts: film, television, videos, and music. People all around the world are also reading our books. American dance is internationally renowned, and American-made jazz can be heard from nightclubs in Berlin to festivals in Sydney. Our art, our culture, our ideas are our greatest national resource, and our non-profit sector is the feeder system for the commercial sector.

But this worldwide ubiquity of American culture was not always so. When we as a people were preoccupied with becoming a nation, there was great and spirited debate over the need for a national culture—that would be entirely and uniquely American. In the nascent days of this Republic, we looked to Europe for our art and culture. John Adams summarized the need for time to build an American culture.

He wrote:

I must study Politicks and War that my son may have liberty to study Mathematicks and Philosophy. My sons ought to study Mathematicks and Philosophy * * * in order to give their Children a right to study Painting, Poetry, Musick, Architecture * * *.

We are the grandchildren of John Adams. We have created, and are constantly remaking, an American culture. In Adams' day, we were struggling. English critic Sydney Smith wrote in 1815, "In the four quarters of the globe, who reads an American book?" I have the answer for him 180 years later: the whole world reads American books. And our National Endowment for the Arts in these last five years alone has supported with individual fellowships early in their careers, 18 of the 22 major American book award winners.

Today, governments around the world realize that an investment in the arts is good for the national economy. Even the new and emerging nations realize that federal support for the arts is a way to stimulate the economy, provide for a national identity, and cultivate the conditions necessary for a creative flowering. If we want to be the best, we must continue to invest.

The national and international need for federal arts support becomes crystallized when you see how that investment affects the people right here in America. I have seen American art in 130 towns and all of the 50 states I've visited since becoming Chairman. I have seen how Endowment dollars leverage funds from the private sector to make the arts more a part of the daily lives of millions of Americans.

In New Mexico, I saw the Teen Center in Santa Fe bring in teenagers to do something constructive and creative with their free time. In Mississippi, I saw quilters from Port Gibson stitch their stories into quilts which they then in turn sell to the public, marrying art with commerce and making their lives a little bit better. In West Virginia, the arts are a bridge across generations, bringing together extended families in a mutual love for country fiddling or storytelling. In Seattle, the new museum has the finest collection of Asian art anywhere. In inner city New Orleans, Young Artists/Young Aspirations—YA/YA for short—uses the arts to provide a way out of despair and disenchantment for high school students, who as part of the deal for training in the visual arts must go to college. YA/YA recently won a contract to re-do the upholstery fabric at the United Nations in New York with their inventive prints. Their success all began with an Endowment grant.

These people are not the elite, and their ideas and love of art are not corrupt. I believe that art matters to the way we live now, here in America. Perhaps you read the story in the Washington Post a few weeks ago about the little rural theater company in a town called Broadway, Virginia. The director, Ralph Cohen, was in a Hardee's ordering dinner when the girl behind the counter noticed his t-shirt which said "Shenandoah Shakespeare Express." She told him she liked *Taming of the Shrew* the best, and then the worker at the drive-through window piped up and said, "No, *Midsummer Night's Dream* is the best!" In a fast-food restaurant in a small country town, there was a great critical debate over the merits of Shakespeare's plays. Those kids had seen the plays put on by the Shenandoah Express in their hometowns—the only exposure they had to art, other than film and public television, perhaps a book. All because of the Arts Endowment and our small, but crucial, grant.

The Arts Endowment is here to serve the American people, and we are trying to do even more as Congress has asked us to do: through arts education and through community outreach. For smaller organizations, we can provide up to 50 percent of their yearly budget. For our cultural treasures like the Pacific Northwest Ballet or the Oregon Shakespeare Festival, the federal government plays a role that cannot be matched at the state level.

I wanted to give you a small idea of the breadth of what I've seen and what we do, because too often this agency has been pigeonholed because of a controversial project. We have taken measures to be more accountable to you and to the American people.

In response to budget reductions, I have eliminated all the Endowment's subgrant programs, except those that are made in conjunction with state and regional arts organizations. I did not think it was appropriate to continue funding third-party organizations which in some cases could not meet our panels' criteria and which had significant overhead costs.

We have streamlined internally by clustering five of our discipline-based grant programs into two groups—Music, Presenting and Opera-Musical Theater and Visual Arts and Museums—in an effort to reduce our administrative overhead and respond to the National Performance Review.

We have diversified our advisory grantmaking panels and included one lay person on each. We have changed our guidelines so that instead of spreading our funds through the entire season of an organization, we can allocate the amount NEA invests in particular areas of seasonal support if we so wish. The National Council on the Arts—our advisory board—is very active, and we seek to give them more resources to make informed decisions.

But no matter what we do, you will hear criticisms of a project or two. We still hear criticisms of projects that are long over, that happened six or more years ago. Certain groups of critics make considerable money feeding off this sensationalism. Some of our critics have even called all art today "corrupt." This stuns me.

Is it corrupt when millions of children learn to paint, or write, or dance? Is it corrupt to enable music groups to perform in hospitals and senior care facilities and free concerts in the park? Is it corrupt to bring opera and folk music into millions of American homes through television and radio? Is the young woman at Hardee's in rural Virginia corrupted by Shakespeare?

I have been a professional artist, an actress for 35 years, and I know about the arc of time. Some art isn't immediately accepted. Back at the turn of the century, the avant garde photographers Alfred Steiglitz and Edward Steichen even scoffed at the sketches of Cezanne when they first saw them. It takes time for people to understand the significance of new art. And sometimes artists fail. Failures in art experimentation rarely survive the test of time. But it is only through failing that artists or scientists know success and how to create something meaningful and lasting.

It hurts to see the sensationalizing and politicizing of this agency. Are we so weak as a nation that we cannot support the very tenets on which our Constitution was founded? Tenets that were wrought from an abiding understanding of what persecution meant? That the very bedrock of a great nation was its tolerance—of ideas, of inquiry, of imagination? A great nation supports and encourages the education of all its people. A great nation recognizes that the life of the spirit, of the human mind, is what endures through the passing on from generation to generation a heritage that says: this is who we are, this is who we were, and this is who we will be in days to come. That heritage is manifested through the arts, the humanities, and the sciences. That heritage is what we seek to keep alive at the Endowment for the Arts. We have funded over 100,000 grants, and we do our job well. I have been there to your states, I have seen what we have done. You probably have, too, but you may not realize that much of the arts you see are made possible through the Endowment.

We need to do more. That is why I request the modest increase in our budget for fiscal year 1996. With this budget, we will invest in our communities, in economic vitality, in our children, in partnerships, and in our heritage.

And we look to the future as well. The end of the century and the beginning of the new millennium will provoke an extraordinary number of responses around the world. Australia already has plans for the new millennium. How will we in the U.S. mark the occasion?

The approaching 21st century inspires us to represent the past, intimate our future directions, and enable the American people to witness and experience our achievements as a nation these past 200 years. The Arts Endowment—through our Millennium Project—will facilitate a great national journey into the spirit of America. It will be conducted by our writers, playwrights, filmmakers, our architects and designers, our dancers, painters, folk artists, musicians and creative thinkers. The aim? To turn the occasion into a platform for a national audience wherever people gather in cities and suburbs, in malls, in small towns, in rural areas, and even bring to our Nation's Capital in the year 2000 the best art of all our 50 states. For this, we will need Congressional commitment, both spiritually and financially.

We want America to continue to produce the best art possible. Our ideals and culture are a model for the world. The National Endowment for the Arts Endowment will lead American culture into the next millennium for the world.

Thank you.

BIOGRAPHICAL SKETCH OF JANE ALEXANDER

Jane Alexander was nominated by President Clinton to become the sixth Chairman of the National Endowment for the Arts on August 7, 1993, and was confirmed unanimously by the Senate on September 22. She was sworn into office by Associate Justice of the Supreme Court Sandra Day O'Connor on October 8.

Since becoming Chairman, Ms. Alexander has gone on the road to listen to the American people. In dozens of town hall meetings from Portland, Maine to Portland, Oregon, she has discussed her agenda for leading the agency in speeches before citizen groups, business and civic organizations, national arts organizations and others. Taking up the challenge of President Clinton to "renew America," Chairman Alexander has spoken out about how the arts can lead the way in education reform and in community building.

Before her first year in office is out, Ms. Alexander will have visited 42 states, and by the end of 1994, she will have traveled to all 50 states and the six special U.S. jurisdictions. She has met personally with governors and mayors, given over 100 speeches, visited scores of schools, and met with many artists, administrators, corporate, education and community leaders throughout the nation.

In April 1994, Chairman Alexander convened the first national arts conference organized by the federal government: "ART-21: Art Reaches into the 21st Century." Over 1,100 people attended the three-day assembly in Chicago to share information and explore new ideas about the future of the arts in America. In keeping with Chairman Alexander's priorities, the conference focused on education, community-building, technology and funding.

In an effort to solidify the place of the Arts Endowment within the Administration and to forge good will and engender alliances on Capitol Hill, Chairman Alexander has met formally and informally with dozens of Cabinet secretaries and Members of Congress. She has met with Secretary of Commerce Ron Brown, Secretary of the U.S. Department of Housing and Urban Development Henry Cisneros, Secretary of Education Richard Riley, Secretary of HHS Donna Shalala, National Service Cor-

poration Director Eli Segal, and Attorney General Janet Reno to discuss ways of integrating the arts as a positive force in all walks of American life.

Under Chairman Alexander's leadership, the Arts Endowment received a \$400,000 grant from the National Service Corporation to create "Writers Corps" as part of the national force of AmeriCorps volunteers. The Endowment also has entered a partnership with the U.S. Department of Transportation that encourages design excellence in all modes of transportation.

Ms. Alexander, a native of Brookline, Massachusetts, has been active in the arts for over 35 years as an award-winning actress, producer and author. Throughout her career, she has excelled in film, theater, television, and other areas of the arts.

Ms. Alexander has received a Tony Award for *The Great White Hope* and an Emmy Award for *Playing for Time*. She has received six Tony Award nominations, four Academy Award nominations, and five Emmy Award nominations. She also received the Television Critics Circle Award for her portrayal of Eleanor Roosevelt in the film *Eleanor and Franklin: The White House Years*. In addition to the 40 films she has appeared in, Ms. Alexander has performed in over 100 plays in New York and in regional theaters throughout the country.

Ms. Alexander has produced three films, including the acclaimed *A Marriage: Georgia O'Keeffe and Alfred Steiglitz* for PBS's American Playhouse series. She has narrated numerous documentaries, short stories, and books and is co-author of a translation of Henrik Ibsen's *The Master Builder* and co-author of *The Bluefish Cookbook*.

Ms. Alexander has served as an effective and articulate advocate for a number of worthwhile causes including the National Stroke Association, Women's Action for New Directions, and the Wildlife Conservation Society. In recognition of her leadership, she received the Living Legacy Award: Jehan Sadat Peace Award in 1988.

Ms. Alexander attended Sarah Lawrence College and the University of Edinburgh. She was born on October 28, 1939 in Boston, the daughter of surgeon Thomas B. Quigley, one of the founders of sports medicine, and the granddaughter of Daniel Quigley, who was Buffalo Bill's personal physician. Ms. Alexander is married to director Ed Sherin and is stepmother to Tony, Geoffrey and Jonathan. Her son, Jace Alexander, is an actor and director.

FISCAL YEAR 1995 RESCISSIONS RECOMMENDED BY HOUSE

Senator GORTON. Let us start by going on with this narrow subject of these rescissions. Could you tell me in some detail, should the rescission package which has been recommended by our brother or sister subcommittee in the House be accepted, what administrative impacts would the \$1 million from administration have, precisely, and how would you deal with the other \$4 million if you were given the right to save that money in any way you saw fit?

Ms. ALEXANDER. With regard to administration, 70 percent of our administrative budget is personnel, so this would hit personnel particularly hard. We would have to furlough for at least 8 days, and that hits our employees right in their pocketbook. That is where it would hit at this point.

Senator GORTON. And the \$4 million that would come out of the body of your appropriations?

Ms. ALEXANDER. That has been asked to come out of our individual fellowships, and as I pointed out—

Senator GORTON. Let me ask you the question differently. Let us say you are going to lose that \$4 million, but we left it up to you as to where you would lose the \$4 million rather than requiring it out of one particular section. What would you do?

Ms. ALEXANDER. We would have to go back and look at what is, in fact, unobligated at this time, and frankly I would probably then cut across the board what is unobligated, because it would be the only fair way to look at it.

Our system is linked to when the panels are convened and when the council meets to approve the recommendations of the panels,

so we always have some groups outstanding at any given time. We have a certain number of areas that would be outstanding, so it would be unfair to hit them particularly.

ENDOWMENT PRIORITIES WITH LESS FUNDING

Senator GORTON. Now, the question that I asked in my opening statement: Assuming that in fiscal year 1996 Congress is determined to continue to support the National Endowment for the Arts, but at a substantially lower appropriation than is available this year, I would like your comments on how you would set your priorities under those circumstances.

Ms. Alexander, you have been particularly eloquent with me, and in most or all of your public statements, in saying that there were in a sense two real uses of the grant money from the National Endowment for the Arts. One obviously was the support of individuals and institutions, the tangible support. But many institutions have written me and you have spoken to me about the ratification, the imprimatur, that having a grant from the National Endowment for the Arts provides. That approval makes fundraising in the private sector much easier, and you have spoken about an 11 to 1 ratio of private gifts and of gifts from other sources to every dollar that comes from the National Endowment.

Does that imply that even if you had radically less money than you have you would try to give as many grants, or grants to as many different organizations, even though they were only one-half as great, in order to provide that approval, or that imprimatur, or would you focus what money you had more narrowly than is the case at the present time?

If you had to suffer a 50-percent reduction next year from this year, would you fund as many people and activities, or only one-half as many?

Ms. ALEXANDER. Well, we would not fund as many, surely.

I would look to reduce the number of categories we have within the agency. We have under 100 categories now. We would look carefully at how we would reduce those. In other words, in music we have just cut out composer fellowships, and the reason that we did that was not only are we looking to tighten that area, but we feel we can encourage orchestras to commission composers so that there is a tie-in with composers and orchestras.

We would look more carefully at addressing the individuals through the institutions without—without, I may add, cutting the individual fellowships entirely, because I do feel that that is funding the very best that we have in the United States.

Senator GORTON. You were not specifically prepared for this question. I would like you to think about it more and come with as much detail as you possibly could. I have more questions, but we may be called out of here very soon, and I want to give the other two Senators an opportunity to ask questions.

Senator Leahy, I turn to you.

Senator LEAHY. Thank you.

Ms. Alexander, I was glad to hear about what you have done following the bipartisan commission's recommendations as to ways to improve the NEA.

Again, I repeat, we have had about 100,000 NEA grants in the last 30 years or so. They all carried the imprimatur of the NEA, but there have only been a few dozen that have caused any controversy, and I am not sure of any department in our Government, from Agriculture to Defense, Justice to HHS, could show that kind of a record, and you ought to be proud of it.

PRIVATE FUNDING OF THE ARTS

When you spoke of the question of a private endowment, I was handed by Senator Bumpers an article that was in the February 26 Washington Post, "Private Sector's Shortfall Specter," and on behalf of Senator Bumpers I would like this included in the record at this point.

Senator GORTON. Without objection.

[The information follows:]

[From the Washington Post, Feb. 26, 1995]

PRIVATE SECTOR'S SHORTFALL SPECTER

IF ENDOWMENTS VANISH, DONORS SAY THEY CAN'T FILL THE GAP

(By Jacqueline Trescott, staff writer)

What if Congress delivers on the promise of some conservatives and kills the federal endowments for the arts and humanities? Is the private sector ready to pick up the slack?

"Highly unlikely," says Richard Ekman, secretary of the Mellon Foundation, which is the major private supporter of humanities programs. Mellon has long been a partner of the National Endowment for the Humanities in backing scholarly publications. The NEH pours more than \$15 million into such projects, while Mellon adds \$1 million to \$2 million a year.

And Ekman is not alone in his prediction. The Lila Wallace-Reader's Digest Fund is the country's largest private source of money for the arts, and a frequent partner with the National Endowment for the Arts. Already the fund receives 1,000 more applications than it has money for each year. "We are limited in dollars and focus," says M. Christine DeVita, president of the philanthropy, which distributed \$43.4 million to various projects last year.

These and America's other largest private supporters of culture worry that the new congressional leadership is expecting too much from the private sector. Catharine Stimpson, director of the fellows program at the MacArthur Foundation, calls it "dangerous wishful thinking" to believe that private funds are ready to replace government dollars.

"The assumptions are that the foundations are these endless wells," Stimpson says. "Can the foundations do it? No."

Besides being legally restricted to spending 5 percent of their capital, charitable foundations are often limited by the wills of their founders. For the Mellon Foundation to pour more money into the humanities—to take one example—"would distort the foundation's other programs" by taking money away from them, Ekman says.

The cultural agencies are relatively small fry in the federal budget—and escaped major cuts in the opening rounds of spending reductions. But the question of their continued existence is still uncertain on the Hill, and philanthropists says they are large enough that the private realm can't replace them.

Harold Williams, president of the J. Paul Getty Trust, estimates that the foundations would have to raise an \$8 billion endowment to produce a reliable stream of \$400 million per year—roughly the amount spent on the NEA, NEH and Institute of Museum Services. To fill all the gaps that might be created by proposed congressional cuts in cultural funding, social welfare, and environmental programs would force the foundations to spend their capital and "go out of business," says James A. Joseph, president of the Council on Foundations.

This is why roughly a dozen national foundations that give \$10 million or more each year to cultural projects have, reluctantly, joined the fight to save the endowments. Reluctantly, because most of these powerhouse charities try to keep clear of political battles. Besides the Lila Wallace Fund and the Mellon Foundation, the list includes the Pew Charitable Trusts, the Houston Endowment Inc., the MacArthur

Foundation, the Annenberg Foundation, the Kresge Foundation, the George Gund Foundation, and such philanthropic titans as the Ford and Rockefeller foundations.

These organizations, and smaller donors, gave \$1.5 billion in support of cultural endeavors in 1993, according to the Foundation Center, a New York research group. The money went mostly to museums and the performing arts, but also to historic preservation and broadcast sponsorships. Only a small portion, about \$50 million, went to the humanities—\$30 million of it from Mellon.

But though the private sector is spending far more on culture than the federal government is spending, philanthropists say government money is crucial to the mix.

"It would be difficult or impossible to replace those funds," said Marian Godfrey of Pew Charitable Trusts, which works with the Rockefeller Foundation, the NEA, the U.S. Information Agency and Arts International to send artists to international exhibitions. The NEA put \$235,000 into that program last year, and the private donors added \$360,000; Godfrey predicts it would collapse without that joint support.

Similar partnerships match, and sometimes rematch, many of the federal dollars spent on culture. NEH Chairman Sheldon Hackney estimates that his agency's \$150 million budget inspires \$120 million in additional giving by the private sector. An NEA study concluded that its \$123 million budget in 1992 leveraged \$1.3 billion in private support.

Some donors worry that without the endowments, the private sector might do less—not more—to support cultural projects.

"I think that is a real possibility with corporate funders or some family foundations," says Alberta Arthurs, director of the arts and humanities programs at the Rockefeller Foundation. "The endowments bring the * * * work to other people's notice. Many of these funders are timid, and these works are often easy to avoid—if they don't have the spur of national attention."

More likely, experts say, the private donors will simply maintain their chosen pace, not doing more and not doing less, because they give money for their own reasons, unswayed by political comings and goings. "These brushfires are not going to change the nature of the work we do," says Alison Bernstein, director of the education and culture program at the Ford Foundation, which expects to spend \$10 million on arts-related projects in the next two years.

Suzanne Sato, vice president for arts and culture at the AT&T Foundation, agrees: "The kinds of things we consider have much more to do with our internal goals rather than outside influences," she says.

None of the major foundations covers the wide variety of projects funded by the federal endowments; they tend to choose specific fields to maximize their impact.

Furthermore, the foundation officials say they are under pressure to support all kinds of pressing needs—not just art. The AIDS epidemic has caused dramatic shifts in health giving, for example. "I would be surprised if we would be able to increase our commitment to the arts because our passion is equal in social issues," says Ben Cameron, a senior program officer at the Dayton Hudson Foundation, a major supporter of cultural projects.

And given the wide range of cuts being talked about in Washington, the major philanthropies may be called on to fill the gaps in many fields, not just the cultural ones. "If everything is cut, then all the demands increase," says Cameron. "If the arts were the only program being cut, it would be easier to predict if the philanthropic dollar is going to come forward like everyone is hoping."

The Ford Foundation's Bernstein is not alone in hoping that the endowments can be saved through a little give-and-take.

"I think," she says, "there will be useful political compromises."

PRIVATE ENDOWMENT

Senator LEAHY. How much would you need in dollars from a private endowment if they were to step in?

Ms. ALEXANDER. The estimates have been anywhere from \$2 billion to \$8 billion. I do not know how that kind of money is possible to come by, except from the U.S. Treasury.

Senator LEAHY. I am thinking, Ms. Alexander, you, I, Mr. Hackney, my former chief of staff, Ms. Lovell and others have all been out at one time or another raising money for the arts, and I suspect—Sheldon would probably agree with this—we have all been pretty effective, but there is none of us that good. Is that correct?

Ms. ALEXANDER. I think that is correct, Senator.

FUNDING TO SMALL STATES

Senator LEAHY. In a rural State such as mine, the State arts council and local art agencies play a key role. I live in a town of about 1,200 people in an old farmhouse on a dirt road. Our State capital has 8,500 people in it. That is where I was born, and I think it is the same 8,500 people, but we have little tiny towns, and yet we use the various grants to get out there.

Our Vermont Symphony during our bicentennial showed up in every single town. Sometimes it was only a quartet, but they showed up in every single town. I mean, these were towns from Victory, VT, which I think has 38 or 39 people, to our largest city, which is 38,000, and our State arts council and local arts agencies helped a lot.

Now, some members wanted to give more NEA money to the States through a block grant. Does that work? What is your view? And I am thinking primarily about rural States like mine.

Ms. ALEXANDER. All our money goes to the States. All art is local, like all politics is local. We feel that the balance now is a good one, and the amount of money going to the States is appropriate. To reduce the Federal role again is to reduce all the things that I said earlier, the imprimatur, all the things that work for the States and for the institutions.

As you know, fully one-third of our money goes to the States already for the State arts councils. They have indicated through their National Association of State Arts Agencies that they feel that the current balance is the right one, and I do not think that block grants would accomplish anything that we cannot handle better right now.

I wish to submit a letter for the record from the National Assembly of State Arts Agencies in regards to the funding for the arts for the benefit of all Americans.

[The letter follows:]

LETTER FROM THE NATIONAL ASSEMBLY OF STATE ARTS AGENCIES

JANUARY 21, 1995.

Ms. JANE ALEXANDER,
Chairman, National Endowment for the Arts,
Washington, DC.

DEAR JANE: As you prepare to testify to the Senate Labor and Human Resources Committee, please permit me to update you on some of the reasons that state arts agencies value Congressional support for the National Endowment for the Arts.

The National Assembly of State Arts Agencies (NASAA), representing the state and special jurisdictional government arts agencies of the United States, is urging Congress to enable the National Endowment for the Arts to move forward in its essential federal roles of providing leadership and funding for the arts to the benefit of all Americans.

Federal leadership and funding, both direct and indirect, play an essential role in the effort to make the arts available in every community to every person. Without public funding, the arts would be available only in the wealthiest states, in the wealthiest communities, and to the wealthiest individuals. Just as the museums of the Smithsonian Institution help make the visual arts available in our capitol city, the National Endowment for the Arts helps make all the arts available to families in communities all over the nation.

State arts agency funding varies from state to state and year to year, often depending on regional economies. A base level of federal funding in each state is crucial that those working to reach people with arts activities and products can have

the continuity in the public portion of their funding that enables them to engage in good planning and management. Direct grants from the federal agency to organizations in each state are necessary for projects of national significance.

The state arts agencies rely upon federal leadership and funding in identifying and addressing cultural needs that are truly national. Direct federal grants are necessary to ensure that organizations make our artistic heritage available to the public and preserve it for future generations. Congress itself has asked the National Endowment for the Arts to see that federal dollars reach underserved communities. Congress also asked the federal agency to play a leadership role in promoting the understanding and inclusion of the arts as part of a basic education. Currently, Endowment leadership and some direct funding for coordination is bringing together private foundations and corporations with state arts agencies in a national partnership to assist each state in including arts education in its education reform.

Leadership and direct funding at the federal level are required to enable people throughout the United States to make market decisions about participating in the arts. In many places in the United States—rural, suburban and inner-city—an individual or family cannot decide to attend an arts event or purchase an arts product because the way the distribution system works does not allow that. How many people—and how often—can decide to attend a professional theater or dance performance, see jazz or chamber music, view a film not produced in Hollywood or a book not published by a New York firm? Leadership and funding at the federal level is required to test national distribution systems and to encourage arts-producing organizations to reach broader audiences and more challenging markets.

State arts agencies also rely upon federal leadership and direct funding of national initiatives to attract private, corporate and foundation support to the arts, especially from funders who can be encouraged to provide matching support on a national or regional basis. We value a federal partner who can help the tourism industry, the international trade industry, the business and commerce communities to see how the arts enable them to achieve their goals, and how they can assist more Americans to participate in the arts. We need a partner arts agency at the federal level to play a leadership role in working with the trade associations and other federal agencies who work with these private sector interests—the National Alliance of Business, the U.S. Chamber of Commerce, the United States Information Agency—so that those of us representing the public at the state and local levels are better able to establish working relationships with their constituencies. We need a federal partner to help bring the profit-making and non-profit arts industries together in common purpose in the public interest.

NASAA sent letters to the House Appropriations Committee in June 1994 and to the Senate Appropriations Committee in July 1994 stating that we supported the balance of funds distributed directly and distributed indirectly through state arts agencies as called for in the existing NEA authorization. Our position has not changed.

We applaud your visiting every state and jurisdiction in the United States in order to be in direct touch with the nation's diverse artistic and cultural needs, and to increase public understanding of the value of the arts and the work of the National Endowment for the Arts.

Thank you for everything you are doing as the nation's chief spokesperson for public funding of the arts.

Sincerely,

JONATHAN KATZ,
Executive director.

Senator LEAHY. Mr. Chairman, I have other questions for the record. I also have some from Mr. Hackney. I expect to be back for his testimony, which I want to hear, and just in case, because of what is happening on the floor, I do not get back, I would ask permission that further questions be included in the record.

Senator GORTON. They certainly will. I have just been informed that at 10, which it is right now, the majority leader will recess the Senate subject to the call of the Chair, so we are going to be able to continue with this hearing. There are two more members present now.

Senator LEAHY. And for background, just for those who are sitting here, the large crunching sound you hear will be arms being

broken in various parts of the Capitol during that recess. [Laughter.]

Senator GORTON. Two arms as far as I can tell, Senator Leahy.

Senator LEAHY. Two arms a person.

Senator GORTON. Thank you. Senator Bennett.

BENEFIT OF ENDOWMENT SUPPORT

Senator BENNETT. Thank you, Mr. Chairman.

Ms. Alexander, we welcome you here. By coincidence, I had an experience over the weekend that I think summarizes what you are saying. I will not say I had an arm being broken, but I had an arm being twisted to make a contribution to a string quartet in Salt Lake City, and responded sufficiently that they gave me two tick-

And as life would have it, by some strange circumstance I happened to have a day off when they were performing, and I went to the spring concert, noticed on their list of contributors the NEA, and realized that they had been able to use the imprimatur of the NEA to make their fundraising effort. It was a marvelous string quartet. I had a wonderful Sunday afternoon listening to them.

In the newsletter that they put out with their concert, they had an interesting statement. They said, we have come to the conclusion that classical music is an elitist experience, and it appeals to the elite. They then went on to list where they had found the elite. In the State of Utah, one of the places they had found the elite was a youth correctional facility where they had been warned, do not turn your backs on these young people. You are likely to get attacked.

They not only turned their backs on them while they were playing the music, but found the elite who were temporarily under detention in a youth correctional facility responded to their music, and they have a particularly interesting approach. They take with them a violin maker who is resident in Salt Lake City, who explains to the kids how a violin is made, showing the different types of wood, construction, et cetera.

They have gone all over the State into rural areas. I agree with Senator Leahy that rural areas will be most hurt if the NEA should be decimated, and places where support for the arts simply is not there financially because of the smallness of the community and the difficulty of raising funds.

I came away convinced that the NEA does wonderful work in States like mine, where it is easier to raise funds from the community if the NEA has given that imprimatur, and people can say, well, I can give money to this string quartet, or this ballet company, or whatever it might be, because someone on a national level has already gone through the process of vetting what they do and certified that what they do is legitimate.

That, of course, implies a tremendous responsibility on you, and on occasion when someone takes your grant and abuses it, immediately it is in the headlines, and you are then called upon to justify things that you probably would not want to try to justify, but the process can be defended, and you have defended it very well.

So I share this experience with you to underscore what you are saying in your testimony, that in many instances it is less the

amount of money that is involved than it is the very fact that the NEA exists and has identified something as being salutary enough that those of us who are called upon to respond in a private way have that kind of benchmark, and I can assure you I am called upon sometimes more often than I would like to be.

But I share that with you to respond to what I think the chairman is suggesting, that if there are cuts, and frankly, given the atmosphere up here, I think you would be naive to assume that there would not be some reduction in your request, that you recognize the wisdom of keeping as many people as possible covered with the imprimatur of the NEA as you can.

This Senator will do what he can to see to it that you do not get destroyed in the budget process, because I do support the arts personally. I support them with my checkbook, have done so on a local level, but recognize the importance of the NEA imprimatur.

I have no questions, Mr. Chairman, other than to share that experience, because it is very fresh in my memory, having been just this last weekend.

Ms. ALEXANDER. Thank you so much.

Senator GORTON. This subcommittee, as well as the parent committee, has the privilege of having both Senators from the State of Washington, and I now recognize Senator Murray.

Senator MURRAY. Thank you, Mr. Chairman. Thank you for having this hearing on a very important topic.

I welcome you here. Jane, it is great to see you, and to thank you for all the good work you do for arts in our communities, and especially in my home State of Washington. I want you to know that I have a lot of confidence in your leadership and really value your goal of bringing the best art to the most people, and appreciate your emphasis, particularly on arts education and community outreach.

I know that the Endowment supports access to the arts for all citizens, and I think that is a very important goal. I also appreciated your reference in your written testimony to the Seattle Art Museum and the Pacific Northwest Ballet. I am glad you made it out to our home State of Washington and had an opportunity to see some of the great art that we do out there.

PRIVATE SUPPORT FOR THE ARTS

I do have a couple of questions for you. There has been a lot of discussion in this Congress about decreasing funding for the arts, or eliminating funding altogether, and I want to find out from you what you see as the implications of those kinds of proposals. I guess what I am really asking is, can the private sector replace what the Endowment does?

Ms. ALEXANDER. Thank you, Senator. You may have seen in the Washington Post the other day, and it has been entered into the record, that the foundations came out saying that it would be very difficult for them to replace what we do, or even increase the amount that they give to arts organizations.

In fact, we suspect over this next fiscal year there is going to be a decrease in arts funding from the corporate and the foundation sector of as much as 3 percent, and that is because we suspect there will be other priorities that they have to address, other issues

that also involve social issues, things like that, because of budget cuts in those areas.

We always like to believe that there is new money somewhere. In our unique public-private partnership in arts funding in the United States, the private sector is the main source of giving, and we work as the catalyst and the seed money in that intricate partnership that makes it all possible. Senator Bennett has pointed out how it happens that one gets excited about giving when an arts endeavor has gotten national recognition.

We do not expect that the private sector can give any more at this point, so that means that there may be considerable decline in institutions themselves. They may have to shut their doors, the smaller ones certainly, ones where we give maybe 50 percent of their budget. That is as much as we are allowed to give.

And the large institutions will start to downsize even more than they are already. Museums will close their galleries, close their doors certain hours, and certain days of the week, and arts institutions of a performing arts nature will simply do smaller and smaller shows.

This is highly regrettable to me, because we are facing a big birthday party at the turn of this century, the millennium—2,000 years—and we want to celebrate with a bang-up job. We feel the arts and the humanities are the best way to celebrate who we are as a people in the United States of America, so I do not want to see people downsizing. I do want to see them thinking bigger and bigger in ways that each State can represent the best of their arts, but if we do not have that money from the public or private sector, or that incentive, it is not going to happen.

Senator MURRAY. So you do not see that the private sector can actually make up that in the coming years.

But I think there is another danger, too, in making arts only bought and paid for by people who have money. I think there is a very important philosophical reason why all of us contribute to the arts, so all of us have an ability to have a say in what is being produced, and I think that is an important concept in this country that I would personally fear losing.

IS THE ENDOWMENT ELITIST?

I have another question, and it kind of comes to the same point. I hear the argument that the Endowment is elitist, and I find that quite interesting, and I want your response to that. Do you think the Endowment is elitist?

Ms. ALEXANDER. If elitism means excellence, yes. However, as Senator Bennett has pointed out, we reach everywhere. If anything, the legislation of 1965 that created the Endowment asked us to start being accessible to all Americans. That has taken a long time to do that, but in 1965 the big urban environments were the ones where you found the arts institutions.

You can go almost anywhere today, and I have been many places—Fort Ransom, ND, has nothing in the town, but it has a little arts center, and that is it. It does not even have a general store.

We are all over the United States, and we have touring groups that go all over the United States too, today. If that is elitist, it reaches an awful lot of people who are elite, so to speak.

In fact, you should know that more people attend nonprofit arts events in the United States than all professional sporting events combined, so that is a large elite crowd as well.

Senator MURRAY. I appreciate that, and I find the argument interesting as well, because we all know we have to reduce the deficit. We all know that that is a goal, and we all know that everything is going to have to contribute to that, but as we ratchet down funding for the arts, we are making it elite. It seems to me if wanted to make it less elite, we would double the funding for it rather than cutting it back, and that is obviously not acceptable in today's world, but it is, I think, a problem.

IMPORTANCE OF ART IN EDUCATION

I have to tell you that as a former preschool teacher, many of the children in my class simply, I see not surviving as adults unless they have something other than some of the recognized events of school that we all see. There were kids who simply survived in school because of the arts that we provided, and I think it is very dangerous in this country if we take that away from our youth, many of them being troubled today, not seeing the regular curriculums in school as something that should keep them there, but they come to school because of the arts. I know the Endowment has done a lot in education, and I encourage you to continue to go in that direction.

MILLENNIUM PROJECTS

One other question. You might have just referred to it in an earlier response. I saw that you had a new line item for millennium projects.

Ms. ALEXANDER. Yes.

Senator MURRAY. Can you explain what that is?

Ms. ALEXANDER. Well, the millennium projects are the ones that I just talked about. How do we celebrate this big birthday that is coming up? Do we celebrate it making more cars, or ball bearings? That will happen naturally, but we really celebrate it by telling who we have been in the past 2,000 years in this country, and that will bring into play our native American people, who have been here and are not necessarily celebrating the year 2000 as their birthday, but they are integrally involved.

And also, if any century belongs to America in the arts it is the 20th century. We have excelled. Just think about it—literature, film, dance, theater; think of the American playwrights that are now known the world over—the visual artists, the painters.

It really is our century, and we should be very, very proud of what we have done in the arts in the United States of America in the 20th century. We should be able to celebrate in each and every State, because all those artists that became famous in the 20th century came from all the States, and so they should be able to declare their native sons and celebrate them as well.

We have a lot of ideas for millennium projects. The field and all the States have ideas. One of them is a photographic survey of

every State by photographers from the States. We are already at work on that. We are at work on one national fanfare for the 20th century, or for the year 2000, that many choruses will sing around the country, things like this.

But it is exciting. We need the impetus. We have the infrastructure to make this happen, and we would like to have Congress's voice and money behind it.

Ms. MURRAY. Thank you, Mr. Chairman.

Ms. ALEXANDER. Thank you, Senator.

Senator GORTON. Thank you. Senator Stevens?

Senator STEVENS. Thank you very much, Mr. Chairman. Again, I apologize for the problem yesterday with the votes. I was supposed to meet with our witness and it was not possible, other than to just say hello. I am pleased you came by to visit, but I am sorry I did not have a chance to visit. I just have a couple of questions.

You know, Alaska has a long history of working with the National Endowment for the Arts. My predecessor sat here at this table, Alan Bible, as have I for many, many years, trying to help develop this institution so it would meet the original intent of the basic 1965 law. But I do think, in terms of what we have done, we have tried to make certain that NEA utilizes the set-aside fund for underserved communities, which is a very important one in States like Alaska.

LOCAL SUPPORT OF GRANTS

I just wanted to give you a little background for my first question: One of the things I remember so well about our good friend, the late Senator from Nevada, is that he spent a lot of time developing the National Endowment for the Arts and the National Endowment for the Humanities. I remember the dialogs he had with Nancy Hanks here at hearings in this room. One of the things that we tried to develop was the participatory nature of the NEA.

The NEA in those days was primarily involved in grants and challenge grants requiring some participation of the private sector in every grant awarded. Then we spread those out: First, it was just a matching grant; then it was 2-to-1, 3-to-1. We tried to encourage the NEA to deal with utilization of taxpayers' money in a way that demonstrated local support from the private sector for every grant awarded. Do you continue that? Do you have private participation in every grant you make now?

Ms. ALEXANDER. Absolutely.

Senator STEVENS. I am talking about on the local level, too.

Ms. ALEXANDER. Well, every grant that we give is on a local level; ultimately, it will get to the local level either through the State or directly from an arts institution.

Senator STEVENS. Why have we had individual grants that have caused so much difficulty in recent years, if you have participation?

Ms. ALEXANDER. Senator, some of those grants came through what is called seasonal support, to a reputable, worthy institution.

Senator STEVENS. That was a grant then, without matching funds. Right?

Ms. ALEXANDER. No; the institution had to match the grant to them. For example, in the case of the Walker Art Museum in 1994, they had to match on a 1-to-1 basis the seasonal support grant we

gave them for all their 100 performing arts events of the season of 1994. They had to match that 1-to-1.

Senator STEVENS. There is the point. We have gone from the concept of a reviewed project—such as the discussions here about the Adams papers. They turned out to be very well done. But the concept was a project well defined, which had taxpayers' money and had local support.

Now, if you look at grants that go over a period of time, where you cannot identify the projects that are involved in them, that is what leads to the criticism that we have with the NEA process today. Why do we have these grants that go into areas where the utilization of taxpayers' funds are not identified?

REFORM TO SEASONAL SUPPORT GRANTS

Ms. ALEXANDER. Well, what I have instituted, Senator, is a reform measure so that we at the agency can be more accountable to you within seasonal support. What I have done is to reserve the right to allocate our funds within a given season to the programming we wish. In other words, we will not do across-the-board seasonal support, if we so choose.

Senator STEVENS. That still requires local support, a match in some monetary amount for the moneys that the taxpayers put into a project.

Ms. ALEXANDER. Yes; the locality does match. They match any grant we give to an institution on a 1-to-1 or a 3-to-1 basis. They are matching our seasonal support grants. In other words, it is to a worthy institution.

Senator STEVENS. A whole season is a panorama of events. One of them can blow up the process of NEA grants, in terms of the dissent within a community. We sought to try to assure local support by saying, when you put Federal money into a project, it will have matching money from that community for that project. Now suddenly, we get so we are dealing with a year at a time or a season at a time.

I think that the difficulty is that we have to find some way to return to the advice that my late friend from Nevada gave us all, and that is: The public in the area will know what the community will support.

Ms. ALEXANDER. Senator, I will give you an example: The art museum in Anchorage which I visited, we have given seasonal support to in the past. Very often, they cannot tell us—because of the timeline of the grants beforehand and when the panel meets—what their season is going to be in the future, when they send in their application. They do not know all of their programming.

However, the institution is a worthy one. It is respected by the community, as you know very well: In Anchorage that museum is one of the finest that we have. And so, it is on that basis that these grants are awarded.

Now, I have instituted reforms to try to be more accountable. As I pointed out, if there was something in a season at the Anchorage Art Museum that I felt was not an appropriate use of Federal funds, I will take it upon myself, with the authority invested by the Senate and the President, to allocate the funds to an area which I think could better use our money. I have also asked for interim

reports, so that we do not give our final moneys to any organization without knowing their full season.

So I think that will handle some of the problems that you are concerned about.

Senator STEVENS. Well, it sounds better, anyway. I hope it will, because I think one of the problems we face here is the continued difficulty of individual cause celebres that destroy a concept that we have long supported. I am not sure we have the management systems to prevent those from recurring at a very critical time. It would only take about one of them this year, and the amount from NEA will be changed considerably.

What worries me is whether the management systems are there to make certain that the use of Federal taxpayers' money is identified by local support in an area where the grants are made. If we can do that, then I think if there is some difficulty that develops, it will be with the local support; and if there is local support, by definition, I do not think it can reach the height of some of the criticism we have faced in the past.

Ms. ALEXANDER. I would like to point out, Senator, that in the case of the Walker Art Center in Minneapolis, that the State Arts Council and the city of Minneapolis gave a considerable amount of money—in fact, more than the National Endowment for the Arts ever gave—to that center. So, there was local support there too.

Senator STEVENS. Thank you. Thank you very much, Mr. Chairman.

Senator GORTON. Senator Bumpers?

Senator BUMPERS. Mr. Chairman, thank you very much. I welcome Ms. Alexander to the committee. Mr. Chairman, I do not have anything to say, except I lend my very strong support to this program. I have always been a defender of it. I was even portrayed as a pornographer back in 1992; but I got 60 percent of the vote, so it did not matter.

But I can tell you, there are so many small communities and midsized communities in my State which would just never, never be exposed to the arts, particularly the performing arts, if it were not for this program. So I am a very strong supporter of it, and will continue to be.

STATUS OF AUTHORIZATION

I have just one question, Ms. Alexander. I saw where Ralph Regula, who is chairman of the counterpart committee to this one in the House, has said that he would not appropriate anything until the NEA was reauthorized. I understand that Senator Kassebaum, who chairs the authorizing committee over there, is very supportive—or at least, supportive—but I was just wondering: Is there a problem in the authorization? Do you know anything about it? Have you appeared before any of the authorizing committees yet?

Ms. ALEXANDER. Yes, sir; I did appear before the Senate authorizing committee, chaired by Senator Kassebaum, and they are working on a bill as we speak, I think.

Senator GORTON. I think that is correct.

Senator BUMPERS. Good. I have no questions, except to say I am a strong supporter and I intend to do everything I can to protect

this program. And I, frankly, think it is in much, much better shape than the press would lead people to believe.

Ms. ALEXANDER. Thank you, Senator.

Senator GORTON. Senator Reid.

Senator REID. Thank you very much. I wanted to drop by and indicate to anyone that is within the sound of my voice that we have an interesting situation in Nevada. The most conservative county in Nevada—and that says a lot—is Elko County. Elko County is, I think Senator Bryan did very well last time; I think he got 31 percent of the vote. Beat me by about 1 percent. And that was one of our better years.

Senator BUMPERS. That is your answer to Orange County, is it? [Laughter.]

COWBOY POETRY FESTIVAL IN ELKO

Senator REID. But this very conservative part of the State of Nevada has, every January, thousands and thousands of people that come there. They come there to watch the Cowboy Poetry Festival, which over a period of about 8 years, 9 years, has become one of the phenomenons of modern American culture.

They have cowboy poets, of course. We have watched them all on the "Tonight Show", the "Today Show", Waddy Mitchell, especially, the man with the white cowboy hat and the big mustache. We have cult figures in the cowboy area: Ian Tyson and all these singers.

To make a long story short: There is a man by the name of Cannon who, for many, many years, tried to start a cowboy poetry festival. For many, many years he tried. Could never get it going. He finally moved from Utah to Nevada and, after having applied on a number of occasions for a grant from NEA, finally got a little bit of seed money.

As a result of that seed money, this event has really taken off. It is the most dynamic thing to happen in Elko County in a long time. It would never have happened but for this grant; would never have happened. Cannon will tell anyone that will listen, it would never have happened.

The event still gets a little bit of money from the National Endowment for the Arts, and Humanities; and I wanted everyone to know here that this is an example of how these programs work. It did not take a lot of money to get this started. It just took a little bit to start something that will go on now probably for the foreseeable future as a real positive event.

And I would think the biggest critics of the Federal Government, even in Elko County, would say this is a great thing, and we should do more of it. At least, I hope that is what they are going to say.

How was that?

Senator BUMPERS. That was almost as good as mine. [Laughter.]

Senator GORTON. Senator Bumpers, you deserved that.

Senator BUMPERS. You ought to be higher than a kite right now, Jane. [Laughter.]

Mr. Chairman, I have an article here that appeared in the—

Senator REID. You are interrupting me. I still have the floor, you know. [Laughter.]

NEA GRANTS IN RURAL AREAS

Senator BUMPERS. When you quit for 3 seconds, you yield the floor. This is from the Sunday Washington Post, February 12, "This is NEA Country." And it is a story about how people in rural West Virginia applaud this program. And I would just like to insert that in the record, because for the people who think this is only for dilettantes—

Senator GORTON. It is already in the record. Oh, is this a different one? OK, it will be included.

Ms. ALEXANDER. Is this about the Hardees in Virginia?

Senator BUMPERS. Yes; exactly.

Ms. ALEXANDER. Yes; that is a good story, too.

[The information follows:]

[From the Washington Post, Feb. 12, 1995]

THIS IS NEA COUNTRY

HARDEE ENDORSEMENTS IN RURAL VIRGINIA

(By Ralph Alan Cohen, professor of English, James Madison University)

I'm the executive director of the Shenandoah Shakespeare Express, a Shakespeare troupe that tours two-thirds of the United States each year. I live in Broadway, Va., a town of 1,000 not far from the West Virginia border, home of the Broadway High School Gobblers. Broadway has a wonderful little supermarket, where Randy lets you sign for groceries, but it doesn't have a fast-food place. We have to travel to the Hardee's in Timberville, our "twin city" about two miles away.

That's where I went on the Fourth of July.

I ordered a chicken biscuit from the teenager at the counter. She pointed to my chest and asked me: "Are you with them?" I was wearing one of my company's T-shirts. "Yes," I answered. "I don't act but I'm one of the directors."

And she said: "They did 'Taming of the Shrew' at our school. I think that's the best play by Shakespeare."

Flattered, I opened my mouth to speak, but before I could say anything, the girl working the drive-through window called back over her shoulder: "No. The best play is 'Midsummer Night's Dream.' That was really funny."

"'Taming of the Shrew' was just as funny, but it had a great love story," said the cash-register girl.

"'Midsummer Night's Dream' was funnier, and it had more than one love story," countered the drive-through kid.

Cash-register teenager: "I still like 'Taming of the Shrew' best because Kate was a really strong woman and the show started with 'Stand by Your Man.' That was so cool. And that actor Jeff looked just like Jason Priestley."

Drive-through teenager: "He was in the other play too; he was the one who married the Queen at the beginning."

Cash register teenager: "He was better in—"

Me: "Could I have my chicken biscuit?"

I offer this real-life exchange from a Hardee's in rural Virginia for the consideration of America's lawmakers, as they ponder the future of the National Endowment for the Arts.

Last year, the NEA gave the Shenandoah Shakespeare Express \$5,000, and that money helped us take "Othello," "The Taming of the Shrew" and "Much Ado About Nothing" to more than 100 high schools and colleges in more than 30 states. True, most Americans don't associate the NEA with kids learning to love Shakespeare. That's because Sen. Jesse Helms (R-N.C.) and others have created the compelling fiction that all the agency does is fund kooky and depraved artists who dabble in body fluids and private parts.

Last year, for example, the Helms contingent went into conniptions because \$150—about half of what the Pentagon has been known to spend on a hammer—found its way from the NEA to a man whose "art" includes razor-etching the body of a volunteer.

But here's the real story: Our little Shakespeare company got \$5,000—not much, but 33 times more than the human Etch-a-Sketch—and our grant, not his, is typical of the NEA. By far the majority of the NEA money goes to local theater groups,

community orchestras and regional museums—what you might call traditional art. Conservatives often complain about the evils of popular culture—sex in movies, violence in rap, profanity in rock lyrics—but they've targeted the NEA, the organization that most assures the continuation of classical theater, dance, and music in this MTV world.

You have to wonder.

THE CONSERVATIVE NEA

There are other Helmsian fictions as well. One of them is that the NEA is an elitist club for avant-garde poseurs from downtown Manhattan.

The real story is this:

When my partner Jim and I decided to apply for help from the NEA, we were acutely aware that we had no connections in the theater world and no pull in the government. If getting a grant depended on whom we knew, there was no point driving 125 miles to Washington. All we had going for us was my faith in our idea, plus Jim's energy, the dedication of 11 underpaid actors and "Bubba," the old pickup truck my father left me.

We decided to try. As we rode the elevator to the NEA offices in the Old Post Office Pavilion we felt like Dorothy approaching the inner sanctum of the Wizard of Oz. Then the doors opened and we found *** plain old Ben Cameron.

We expected a lavish office, but he had a cubbyhole, and we had to borrow enough chairs for us all to sit down. We expected layers of bureaucracy; we got Cameron, the top guy in charge of theater projects. We expected the rube treatment; instead, we were asked two main questions: One, how was our project different from other projects they were funding? And two, would we be able to deliver?

No powerful friends required; no kinky approaches urged. No one told us to do "Hamlet" nude or change "Antony and Cleopatra" to "Tony and Tony."

It might be news to the Helms faction that the best term to describe our experience with NEA funds was "conservative." We didn't get a grant the first year we applied. The explanation was simple: First-time applicants are a risk.

The NEA wanted us to prove our staying power—laudable fiscal restraint.

Our second application won a \$5,000 grant, which has twice been renewed. But each renewal has come only after an exhaustive evaluation by the NEA. A reviewer spends the day interviewing us, watches our show and decides whether we are meeting our mission. To ensure impartiality, we are not allowed even to offer him a sandwich or a free ticket.

One final fiction: that the NEA is somehow related to high taxes. The NEA will spend \$167 million this year. The government spends three times that amount each day to cover the interest on the national debt.

Or put it another way. It costs each one of us less than 2 cents a week to support an America in which teenagers like the ones at the Hardee's in Timberville, Va., have access to the plays of Shakespeare, the music of Mozart, the paintings of Remington and the songs of Gershwin.

That's a bargain for our kids' future—better, even, than Senator Helms's tobacco price supports.

Senator REID. Mr. Chairman, I would like to finish my statement now. [Laughter.]

Senator GORTON. Senator Reid, you have the floor.

Senator REID. My statement would have been better than Bumpers', but I lost my staff person on the way in and had to kind of wing it. [Laughter.]

In addition to that, I would have had some really good questions; but I do not have my staff with me, so I cannot ask them. [Laughter.]

Senator BUMPERS. He chides me about speaking too much. I told him the difference is: When I speak, people listen. They think I talk a lot. [Laughter.]

Ms. ALEXANDER. Mr. Chairman, may I just respond to the Senator from Nevada for one second?

Senator GORTON. Yes; you may.

Ms. ALEXANDER. Because I do think what you are talking about, Senator, is really at the heart of what the NEA does. And what Hal

Cannon and the Cowboy Poetry Festival have done in Elko, NV, that small little town, is rather remarkable.

Not only have they brought together over 8,000 cowboy poets every year—they are in their 11th year now—to Elko, NV, people who want to be together and want to recite their poetry to each other, but they have also impacted the town, of course, with great economic vitality and it is known—it will be known very shortly all around the world; because tourists are beginning to want to book, to go to the Cowboy Poetry Festival.

One other thing, however, is that Hal Cannon had been to, he estimates, 150 private organizations before he came to the NEA for funding. It took that many turndowns; and then, it only takes one yes.

And so, I thank you for that story.

Senator GORTON. Ms. Alexander, I have one more set of questions, and then anyone who has more can ask them or submit them for the record.

CHALLENGE GRANTS

There was a brief mention earlier in your testimony, I think, of challenge grants. Fairly close to 10 percent of your requested appropriation is for challenge grants, with a 3-to-1 match. But they are all for purposes other than the purposes than you have discussed here today.

Your budget justification speaks of establishing or augmenting an endowment, for cash reserves to reduce the principal portion of long-term notes payable, for fund deficits, and for construction—for capital funds for construction.

Now, assuming the justification for all that you have talked about here, what is the justification for significant amounts of contributions from the Federal Government for building buildings or for private organization endowments, or because private organizations have cash problems? What is the justification for this challenge grant program?

Ms. ALEXANDER. For stabilization of arts institutions. Some communities are able to raise these funds for their organizations. But a true capital campaign—we do not get involved in, necessarily, the start of the building of buildings; we are involved with renovation of systems, things that will keep the building operating for the artwork within it.

Most of our challenge grants today are going to create endowments and stabilization of the organization in that way, which we encourage and I would think Congress would encourage too. It is asking less of Federal money and more of private money, ultimately, to keep these organizations afloat year to year.

Senator GORTON. Endowments for symphony orchestras, for example?

Ms. ALEXANDER. Yes; an endowment that would allow them to live off the interest, or maybe just pay their general operating support off the interest year to year of a true endowment within their community.

We see it as a plus for everybody: It is good for the vitality of the community; it brings in a lot of the private sector, who will con-

tribute to this endowment as well. But we are the startup money. I mean, it is a challenge, as you point out; it is a 3-to-1 match.

Senator GORTON. I cannot imagine a single institution in the country that would not like to have a Federal contribution to its endowment. How in the world, other than a 3-to-1 match, are you going to determine to which institutions we should contribute—not to their daily or yearly operations—but to an endowment? And, can a particular institution get more than one challenge grant for its endowment over a period of years?

Ms. ALEXANDER. They can, over a period of years. I think that they cannot come in right away. Is it once every 3 years? They have to wait out for a few years, certainly. But it is a highly competitive field, obviously; and only the best receive grants. We just announced, I think, 40 of them, a little over 40 of them. And they are the big bucks money at the agency.

But we hope that they will have long-term impact. The idea is to keep these organizations going on their own as much as possible.

Senator GORTON. Senator Murray, do you have any other questions?

Senator MURRAY. No.

Senator GORTON. Senator Bennett, do you have any other comment?

Well, I would let you go, save for one reason, Ms. Alexander. If you will sit there for a moment, I am informed that Senator Domenici is on his way and very much wants to make a comment and ask a question to you. So, if you will stay, we will pause for a couple of minutes.

Other members, and this member, will have written questions to submit to you for detailed responses; but we will be in recess for about 3 minutes.

Ms. ALEXANDER. Thank you.

[A brief recess was taken.]

Senator GORTON. The late Senator Domenici is with us. [Laughter.]

Senator, we wanted to give you an opportunity to speak to and question Ms. Alexander. Senator Domenici?

Senator DOMENICI. Thank you, Mr. Chairman. There are some who wish I was the late Senator Domenici. [Laughter.]

It is not ferocious yet.

First, I want to congratulate you on your tenure so far as chairman. I know it has been a rocky 2 years, but in my opinion you have handled the pressures of this job well and you have performed with the typical good grace that is yours, and good will.

And personally, since you know there is an enormous interest in New Mexico in what you do, I think I extend that expression from literally thousands of New Mexicans who share and participate in what you do, and in the arts generally. I think you have done your best, as far as being sympathetic to the concerns of those who do not necessarily share your enthusiasm for the arts; as well as those who believe that your agency has, in the past, shown less than stellar judgment in some of the grants that it has awarded.

Conversely, I know you have also been on the receiving end of criticism from the arts community for your decision not to award

a number of controversial grants; and I know this is a very difficult position for you to be in. But again, I congratulate you on it.

In New Mexico, as you know, our arts are one of our most treasured and well-known resources, and I assume you are aware of that. My State is home to a very large arts community, and not just in the better-known Santa Fe area which begins, it seems to me, to be better-known every day; but also, small communities in New Mexico have received large numbers of NEA grants. And this is not because of my position, clearly, on this committee or any others. If it was that important, we would not have had the largest base closure in America announced yesterday, if I was that powerful. Not to say much about the NEA.

But, because of the highly talented painters, potters, weavers, dancers, musicians across the State, they have prevailed because they are the very best. We also are home to the 1994 National Heritage Fellowship Award: Frances Barrows Graves. So let me state that I have understood the importance of the arts and humanities for a long, long time; and because I represent a State that is very enthused and interested in it, and a very big participator.

I must admit, however, that the NEA is in some tempestuous waters right now. While I do support continuing your agency and will do that with as much vigor as I can, it is also clear that it will be very difficult to continue at the current appropriated level. I do not know what that means in terms of what cuts will have to be dealt out, but I think everything must be on the table, and everybody must understand that if we are going to achieve some fiscal sanity, it will be difficult to leave anything off the table.

Nonetheless, I believe you have added some stability and some genuineness that will serve the NEA well in these deliberations, and I cannot say it any other way. Do you want me to proceed, at least with one or two questions, Mr. Chairman?

Senator GORTON. Yes, yes; it is all yours. Whatever you would like to ask, go ahead.

Senator DOMENICI. Thank you very much. You are very kind.

AGENCY REDUCTIONS IN FISCAL YEAR 1995

Last year, the NEA was reduced by 2 percent in the final throes of the negotiations between the two Houses. Part of our debate was over whether to target this reduction or to leave it at the discretion of the agency, to determine where these reductions should be made. Ultimately, we decided to leave it up to you to decide where to make them.

So, I have this question: Can you update us on the nature of the reductions that were made by you, pursuant to this authority; or plans that you might have to make them, to meet the objectives of the appropriations we are living within now?

Ms. ALEXANDER. For fiscal year 1995, I eliminated subgranting in the agency in response to budget cuts. I felt that the overhead involved with giving an organization pass-through money to convene their own panels was too high, and not an efficient, or the most efficient use of our money. So I eliminated the area of subgranting, which crossed over many programs in the Endowment.

AGENCY PRIORITIES IN FISCAL YEAR 1996

Senator DOMENICI. In the event of reductions in the NEA's budget, can you give us any indication of how you may prioritize your awards? For example, would the NEA choose to award more challenge grants, more awards to symphonies, opera companies, theater groups, and less to individual artists? Could you just share your thinking on that a bit?

Ms. ALEXANDER. Yes; the chairman asked me a similar question, Senator; and how I would like to respond is: I do not want to make across-the-board cuts this time.

Senator DOMENICI. If you have answered, please do not do it again.

Ms. ALEXANDER. I will respond to the challenge grant question, however. I do not see a reduction in the Challenge Program.

COORDINATION WITH STATE AND LOCAL ARTS AGENCIES

Senator DOMENICI. Are you working to do a better job of coordinating efforts between the Federal art agencies, the State, and local agencies?

Ms. ALEXANDER. Yes, indeed. We sit down regularly with our colleagues in the State arts agencies and the local arts agencies, represented by NASAA and NALAA, the National Association of State Arts Agencies, and the National Association of Local Arts Agencies.

We are also having ongoing discussions with them about who, in fact, does what best, so we do not have duplication of process or effort, so we do not waste taxpayers' moneys either at the Federal or State level. We expect, within the next few months, to be able to report back to you what we feel would be our priorities. That is why I cannot give you a definitive answer about where I would cut yet, because I want to know what the States will, in fact, be able to pick up that we never would.

Senator DOMENICI. What sort of initiatives is the NEA pursuing to assist State and local agencies in becoming more self-sufficient, in the event that Federal funding is reduced? Are you doing anything?

Ms. ALEXANDER. Again, we are sitting down and talking with them about all these kinds of issues, Senator.

Senator DOMENICI. I have six additional questions, Mr. Chairman. I am going to make them part of the record, if you would permit me. How long do you suggest the witness has to answer them? 2 weeks? 10 days?

ADDITIONAL COMMITTEE QUESTIONS

Senator GORTON. We are going to keep the record open for written questions from members, and we would appreciate receiving the responses to the subcommittee within the next several weeks. We are not close to markup, obviously, at this point, and we prefer that they be carefully thought out, rather than that they be hurried.

Ms. ALEXANDER. Thank you.

Senator GORTON. With that, this portion of the hearing is at an end. And we will take a couple of minutes to exchange the National

Endowment for the Arts with the National Endowment for Humanities.

Senator DOMENICI. Madam Chairman, might I say, I was unable to meet with you yesterday. We had a scheduled appointment, and I apologize. But we have already indicated we will do that again, certainly long before the markup on this bill. With your office and mine, we will arrange that as soon as practicable for both of us.

Ms. ALEXANDER. Thank you, Senator.

Senator DOMENICI. Thank you very much.

Ms. ALEXANDER. Thank you, Mr. Chairman.

[The following questions were not asked at the hearing, but were submitted to the Endowment for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

CONTROVERSIAL ART

Question. The controversy of funding offensive art continues to remain an issue for this Subcommittee. Statutory provisions have been provided in the past to address obscenity concerns on a small number of NEA grants. The FY 1995 Department of the Interior and Related Agencies Appropriations Act reduced NEA funding as a consequence of a recent concern. In an earlier meeting with me, Ms. Alexander, you explained what actions you have taken to address this criticism.

Would you briefly outline for us what reforms have been instituted to strengthen the grant award process? Have you changed the panel compositions?

Answer. The grant award process has been strengthened at every stage:

Application and supporting material requirements have been reviewed to ensure that the Endowment has adequate information on which to base its judgments.

Review criteria have been tightened to assure that every application is tested on the basis of artistic excellence and artistic merit.

The panel selection process has been strengthened to eliminate conflicts of interest; to assure that at least one qualified layperson who does not make a living from the arts is included on every panel; and to assure oversight of the panel composition process by senior Endowment staff.

Working groups have been instituted on the National Council on the Arts to enable an informed group of Council members to review each program and each group of applications in greater detail.

The balloting process for the National Council has been refined to streamline the conflict process and make it simpler for Council members to vote separately on particular applications when they disagree with panel recommendations on grants or rejections.

Question. How are these measures working? What results have you experienced since the reforms have been put in place?

Answer. While we intend to continue working to perfect the grant award process, we believe that the measures instituted to date have been extremely effective. We believe that the process is now fairer, more efficient, and more accountable.

Question. How many of the objectionable art projects have been under a subgrant program? What measures have been taken for subgrant programs?

Answer. As you know, only a handful of the hundred thousand grants made by the Endowment over the past thirty years have been controversial. Some of the projects that have engendered controversy have been funded under subgrant programs. Others have involved major institutions that, in an Endowment funded season or exhibition, included particular pieces or performances which engendered controversy. A very few of these grants have been individual fellowships. Some controversial artwork has been funded under state subgrant programs, over which the Endowment exercises by statute little control. And not infrequently, opponents of the Endowment base their criticism upon projects or individuals that the Endowment has not funded in any manner.

The Endowment has instituted substantial reforms to ensure both greater accountability and greater control. With respect to subgrants, virtually all Endowment subgrant programs have been eliminated. Remaining subgrant programs require that panels include at least one layperson and follow the Endowment's strict conflict of interest standards; that review criteria include artistic excellence and artistic merit; and that most individual subgrants are subject to review by the Chairman.

Question. How are the grant recipients held accountable? Are

grantees allowed to modify their grant activities? If so, how are these changes administered by NEA?

Answer. Grant recipients are held to strict reporting requirements to insure accountability, both financially and programmatically. The Endowment monitors its grantees' activities by multiple means: it reviews interim, progress, and final reports; conducts site visits where appropriate as a part of ongoing application review; and reviews and assesses both cash disbursement requests and written requests for amendments in the time, scope, or budget of a grant. Grantees must submit interim reports before receiving the final 1/3 cash disbursement. A grantee may not change its grant activities -- whether in scope, time, or budget -- absent an advance written request and formal approval from the Endowment. Should a grantee go forward with a change in grant activities without permission, the grantee may be required to repay any monies disbursed. For example, in a recent instance where a grantee changed the Endowment-funded project after being denied permission to do so, he was required to repay the entire amount of his grant.

Question. Assuming that there is an established process to recover grant funding when the final output is different from the expected and agreed upon product, what is the track record for the recovery of funds? During the past two years, how many awarded grants were found to be unsatisfactory and what was the success rate for recovery of the monies? Are there any future restrictions placed on grant recipients due to this misuse of federal funds?

Answer. There are, in fact, several processes not only to recover grant funding, but to assure that the final output will comply with the terms and conditions of the grant. By far the most important are the safeguards now in place to assure that the Endowment need not resort to its grant recovery powers frequently: First, assuring that applications provide sufficient information to allow the advisory panel, National Council on the Arts, and Chairman to assess artistic excellence and artistic merit; second, assuring that the panel review process is thorough, fair, and free of conflicts; third, assuring independent review of the applications by the Council and Chairman; fourth, instituting a procedure by which the Endowment is able to allocate its funds for particular activities; and finally, monitoring grant performance through interim and final reports and strict limitations on changes in grant activities.

There are three primary mechanisms by which the Endowment determines that grant monies must be recovered: as part of the process of audit resolutions by the Endowment's Inspector General; as part of the grants management process administered by the Grants Office; and as part of the overview and supervisory process by individual programs. Recovery of grant monies takes four forms: repayment of grant funds; deobligations of grant monies not yet disbursed; setoffs against other grants; and disallowance of the use of Endowment funds for particular purposes. In addition, frequently, the Endowment is able to negotiate arrangements with grantees that assure that the funds will be used appropriately, and thereby avoid any repayment requirement. Each grant repayment is highly dependent on the individual facts and circumstances.

Some examples of these different mechanisms:

A grantee uses Endowment funds for a project other than the one for which he has received the grant. He is required to repay the grant funds in full.

An organization cancels a project funded by the Endowment before drawing down grant funds. The grant funds are deobligated and returned to the program for regranting or to the Department of Treasury, as appropriate.

A grantee receives grants under multiple Endowment programs. It fails to perform as required under one grant. That grant is terminated; the funds disbursed under the grant are set off against monies that otherwise would be due to the organization under another grant.

An organization receives a grant for a large project. The Endowment disallows certain expenditures as improper or inappropriate.

The organization is required to use private funds to pay for these expenses and to use the Endowment funds for approved purposes.

An organization receives a grant to enhance its financial stability. The grant is conditioned on the organization maintaining its endowment at a specified level. Due to unforeseen emergency circumstances, the endowment is depleted. The organization is required to replenish its endowment within a specified time, but is not required to repay the grant to the Endowment so long as it meets the replenishment schedule.

Because of the different Endowment offices and the multitude of repayment mechanisms involved, the Endowment does not keep separate records of the number of grantees required to repay grants, or the basis for repayment. Its track record in recovering funds has generally been quite good. Because grantees who have not submitted required reports and grantees who are delinquent in any repayment obligations are barred from eligibility for future grants, grantees typically comply promptly with any repayment requirement that may be imposed. The Endowment has the power to retain collection agencies, but has not yet needed to exercise this power. Only on very rare occasions has the Endowment been required to write off grant funds as uncollectible, typically based on the bankruptcy or dissolution of the organization.

Future restrictions placed on grant recipients, in addition to repayment requirements, include (in order of magnitude) government-wide suspension and debarment (ineligibility for future grants); Endowment-wide ineligibility; ineligibility in a particular category or program; alternate funding mechanisms for both current and future grants (for example, requiring proof of expenditures prior to any disbursement of funds); and requirements that the grantee include a disclaimer of Endowment involvement. If recovered funds cannot be reobligated, they are returned to the United States Treasury.

STREAMLINING

Question. Under the National Performance Review, federal agencies were charged with reducing their work forces and streamlining their organizations and processes. Agencies under the jurisdiction of the Interior Subcommittee have been downsizing and streamlining for the past several years. For instance, agencies within the Department of the Interior have substantial reduction targets, approximately 9 percent per agency.

According to the NEA budget justification the agency's FTE level for FY 1993 was 286. In FY 1996, the FTE level will be 273, a reduction of 13 or 4.5 percent.

Two of the FTE reductions occurred due to the FTE's being transferred to the President's Committee on Arts and Humanities. Is the NEA continuing to pay for costs associated with these FTE's? What is the function of the Committee on Arts and Humanities? How does the Committee benefit the NEA? What is the expected life of this Committee? Will these FTE's be returned to the NEA once the Committee on Arts and Humanities is disbanded?

Answer. The NEA is continuing to pay for costs associated with those two FTEs. The President's Committee on the Arts and Humanities' function is to advance public understanding of the arts and humanities and establish new partnerships between the private sector and federal agencies to address critical issues in cultural life. The Committee, in fulfilling its mission, benefits the NEA and, more importantly, the American people by articulating the role of the arts and humanities in Americans' lives, expanding private philanthropy, and creating partnerships between the public and private sectors to support excellence and access to this Nation's artistic, scholarly, and cultural resources. The President's Committee was initiated by President Reagan in 1982 by Executive Order, an Executive Order renewed by President Bush and by President Clinton. The expected life of the Committee has been and continues to be each President's determination. We do not know whether the two FTEs would be returned to the NEA if the Committee were to be disbanded.

Question. Have your assigned reduction targets been met? Who

assigned the targets and where are they identified?

Answer. Our assigned reduction targets have been met; they were assigned by OMB and have been reviewed by our Congressional appropriations committees as part of the annual budget process. They are discussed briefly in the FY 1996 appropriations request on pages 159-161 section D.

Question. The Federal Work Force Restructuring Act of 1994 requirements are to reduce approximately 10 percent of the federal work force by 1999. What are the Endowment's expected FTE reductions to the year of 1999?

Answer. The planning level provided to the Endowment by OMB indicates that once the agency's FTE reaches the target of 273, that level will remain flat through 1999. It should be noted that the 273 is down from 337 in 1980, a 19 percent reduction.

Question. What streamlining efforts has the NEA undertaken?

Answer. The Arts Endowment has undertaken a range of streamlining efforts:

- o Two offices have been eliminated and their functions distributed among other offices;
- o Two offices have been consolidated under an Office of Human Resources;
- o Council Operations and Panel Operations, formerly two offices, have been consolidated into a single office;
- o Five Programs have been "clustered:" three under one director and two under another; and
- o Between FY 1990 and FY 1995, the agency has eliminated 27 funding categories, adopted a two-year or alternate funding cycle for some 11 categories, and eliminated most categories involving subgranting.

Question. What streamlining efforts are planned in future years?

Answer. In FY 1996, the agency proposes to eliminate or consolidate an additional eight categories. In addition, all offices and divisions are being reviewed with an eye to further consolidation or elimination.

Question. The budget justification states that the Endowment has made substantial progress in establishing and implementing initial streamlining plans. One of the examples cited is the review of the agency's mission and function. What anticipated changes have been identified to date?

Answer. In December 1993, at the request of the Chairman, an ad hoc task force was formed comprising Endowment staff from both the program and administrative areas of the agency. The purpose of the task force was to review the agency's current mission statement and ensure its continued relevance and applicability as the Endowment moves into the 21st century. The two possible changes proposed to the Chairman were (1) to include in the mission statement the agency's commitment to lifelong learning in and through the arts, and (2) to strengthen the language in the mission which describes the agency's commitment to bringing artistic experiences of excellence and merit to the broadest possible public.

Question. When will the review of your mission and function be completed? Who is participating in the review? What is the involvement of Congress? When will these changes be implemented?

Answer. As the Endowment continues in its strategic planning effort under the requirements of the Government Performance & Results Act (GPRA), the mission is constantly being referenced and reviewed as the agency strives to establish goals, objectives, and strategies. Participants in the process include Endowment staff, working in teams; a committee of the National Council on the Arts; and artists, arts

organizations, and others interested in the mission and function of the agency. In keeping with the provisions of GPRA and following the guidance of OMB, the Endowment has identified the Director of our Congressional Liaison Office as being responsible for consultation with Congress as planning proceeds. OMB is developing further guidance in this regard, and we are staying apprised of developments.

The Endowment's function, while focused primarily on grantmaking, also includes research and information on the arts of national importance, and providing a forum for addressing national and regional issues in the arts. Our planning analyses and consultation have reaffirmed this function as being a vital one for the country. However, the agency always seeks to assure that its service delivery is as effective and efficient as possible, and that the agency's ability to account to Congress is strengthened. The Chairman of the Endowment has instituted a number of reforms that are intended to increase accountability and strengthen the grant award process. These changes have been discussed in responses to some of the questions above.

NEA PRIORITIES

Question. To get the national deficit under control and to fulfill our commitment to the American public, we must make difficult choices. To stay under the Subcommittee's budget authority and outlay allocations, which we anticipate are going to be exceedingly low, we are going to ask agencies to assist us with agency priorities.

Please provide the Subcommittee with a table indicating by category how funds would be distributed if NEA were only to receive 50% of the FY 1995 enacted funding level. Please provide a brief narrative explaining the rationale behind those choices.

Answer. The Endowment is currently in the process of an agency-wide critical analysis of its programs and categories. This analysis will include contingency plans for program and category consolidation for us in the event Congress mandates deep cuts in FY 1996. Given the fact that the program analysis is ongoing, we cannot at this time provide the Committee a detailed chart showing specific program and category dollar amounts. We can, however, assure you that if the NEA were only to receive 50% of the FY 1995 enacted funding level for FY 1996, it is questionable the extent to which it could meet its mandate and mission. The amount of administrative funds needed to reduce personnel in such a drastic fashion would, in fact, be nearly equal to costs of retaining a full complement, as severance pay, accrued annual leave payouts, retraining, and other costs would be steep. The result would be an even greater than 50% cut in grantmaking funds.

In addition to eliminating some 40% of its remaining categories of support, the Endowment would probably be forced as well to "collapse" whole Programs into others. Those categories still remaining would, with few exceptions, exist with greatly reduced resources, some at levels 60-70 percent below current level. A couple of programs would probably cease to make their own grants and conduct leadership and partnership activities only. The number of grants would likely drop by more than 50%, and the reach of Endowment funds and services would be greatly constricted.

Conversely, the number of applications rejected, and grants reduced, would soar, particularly since there would not be enough time to halt the inflow of applications which has already begun for FY 1996. Even with much less money available for grants, applications continue to arrive at the Endowment, and cuts in the administrative budget would be extremely difficult to absorb; if the Endowment were forced to reduce its FTE from 273 to 140, as would be the case, this could not be achieved rapidly. Much business would remain to be done, and personnel reductions of this magnitude would be extraordinarily disruptive, time-consuming, and costly. It is difficult to imagine how customer service could continue at any but the most minimal level.

Though individual artists, arts and educational organizations, and public arts agencies at the state and local level would all lose substantial funds and services, jeopardizing many organizations and projects, the American people would be the real losers in such a scenario. We believe as well that such an action would cast this

Nation in a poor light with respect to the world community.

Question. Provide the same information describing a 35% reduction and a 25% reduction from the FY 1995 enacted level.

Answer. Again, our analysis of programs and categories is ongoing, but we know that cuts of 35% and 25% below the FY 1995 enacted level would have extremely damaging effects. The Endowment would still have to cut its staff substantially -- from its current FTE of 273 to about 200 FTE at 35% and about 235 FTE at 25%. Elimination or consolidation of many categories of support would still occur; the picture at a 35% cut would be similar to that at 50%, and a 25% cut would permit limited restoration. Virtually no categories would be unscathed. Much of this is due to the fact that the administrative budget, which currently devotes nearly two-thirds of its resources to personnel costs, could not absorb cuts equal to the overall budget, thus forcing larger reductions in grantmaking. These programmatic cuts would be felt throughout the agency's programs, from Arts in Education through Challenge, and the cuts would be felt throughout the country as a vast range of programs and projects would be restricted or eliminated.

YOUTH/COMMUNITY BUILDING/PARTNERSHIPS GRANTS PROGRAM

Question. The FY 1995 Arts for Youth program has been renamed the Youth/Community Building/Partnerships Grants program. The program is proposed for \$685,000, which is an increase of \$285,000. These funds are to be used to support projects associated with the needs of at-risk youth.

Why was the name changed and what is the objective of the program? What results are anticipated?

Answer. The FY 1995 budget for the National Endowment for the Arts includes an earmarked \$400,000 for Arts for Youth. These funds are not managed as a separate program. They are utilized through the Endowment's existing program structure to support projects which involve the arts in addressing the needs of at-risk youth. Typically these projects have either a national impact or can serve as models for replication. In addition, these funds have served to leverage significant matching support from public and private sources for these projects.

The requested funding for FY 1996 will strengthen support for at-risk youth and broaden this area to include the goal of community building through partnerships. Increasingly there are opportunities for arts and arts organizations to play key roles in innovative programs to provide activities which engage the imagination and energies of youth at-risk of delinquency and substance abuse. These and related programs often have the added benefits of expanding access to and participation in the arts for their families and members of the communities. The Endowment will continue to maximize its support for these programs through expanded partnership collaborations with other federal agencies, public agencies, and private groups.

Question. In FY 1995, the NEA is expecting 10 applications with the result of 5 grants being awarded. What is the current status of the FY 1995 grants? Have they been awarded yet? Who are the applicants?

Answer. Although FY 1995 Arts for Youth funds have not been fully obligated as of March, 1995, they support the following grants and interagency agreements:

- o WritersCorps, the Endowment's partnership initiative with the Corporation for National Service and Associated Writing Programs, which supports residences for 60 writers to work with youth and their families in inner-city communities in the Bronx, NY, San Francisco, CA, and Washington, D.C. Sites for the workshops, readings, and other literary programs include local schools, community centers, youth service facilities and homeless shelters. Each year of the three-year program will be funded at \$1,000,000. NEA funds are matched 4 1/2 to 1 by the Corporation

for National Service, private sector partners, and the host sites.

o "Pathways to Success," the Endowment's partnership with Office of Juvenile Justice and Delinquency Prevention (OJJDP) and the Bureau of Justice Assistance (BJA) of the Department of Justice, which will provide support to after-school and week-end programs for at-risk youth which utilize the arts, business entrepreneurial, education, job skills, and creation activities. This partnership will fund 10 projects for a two-year period. The funding available for competitive grants under the Pathways to Success Program is \$900,000. Arts Endowment funds contribute to the Department of Justice support.

o A technical assistance manual for community groups which wish to replicate "Shooting Back," a program successfully implemented in several communities where professional photographers work with disadvantaged and at-risk youth on photography skills as a means of creative expression. Books and exhibitions of the photographs have already been produced in Washington, D.C., Minneapolis, MN, Newark, NJ, and on several Indian reservations, resulting in numerous requests to replicate the programs in other communities in the United States and Europe. Arts Endowment funds will be matched 5 to 1 by the Prudential Foundation and revenues accrued during the project.

o "You Gotta Have Art," the first national arts and youth initiative of the National Writer's Voice Project and the Young Men's Christian Association (YMCA), which will provide a variety of programming to youth through community YMCAs. Projects will include workshops in writing and reading for first-time juvenile offenders in St. Louis; assistance to teenagers from the south side of Chicago in writing and producing a bi-annual magazine; and a summer camp for young writers at the YMCA in Sheridan, WY. A total of 20 YMCAs from across the country will participate in "You Gotta Have Art." Arts Endowment funds are matched by the national and local YMCA chapters.

Question. What is the origin of this program?

Answer. The House Appropriations Committee recommended an increase of \$1 million in the Endowment's FY 1995 budget "to focus and strengthen the currently scattered efforts to use the arts as a tool to reach and educate at-risk youth" (H.Rept. 103-551). A reduction in the total appropriation level for the Arts Endowment by the House-Senate Conference Report on H.R. 4602, FY 1995 Interior and Related Agencies Appropriations, resulted in an allocation of \$400,000 for Arts for Youth.

The House Committee report stated that the Arts for Youth funds were to be used by the regular programs of the Endowment. Consequently, this earmarked funding is not administered as a separate program, but rather is obligated through the Endowment's existing programs.

Question. There are other grant programs which show greater degrees of applicant interest than the Youth/Community Building/Partnerships program. Why is the program requested for a 70 percent increase rather than applying the increase to a program which is of higher interest to applicants?

Answer. The "applicant pool" for the Youth/Community Building/Partnerships funds is not identified in the same manner as the regular Endowment programs. The FY 1996 funding will be administered in the same manner as the FY 1995 allocation for Arts for Youth -- by identification of exemplary initiatives and projects, through the regular Endowment discipline and partnership programs, which allow the NEA support to leverage a greater public and private funding match. Arts programs which address the challenges facing our young people and communities throughout the nation often cross-cut artistic disciplines and the Endowment's own program structure. Consequently, the potential number of applications under this administrative approach are not comparable to the regular Endowment programs (which fund approximately 23 percent of the applications received).

The funding increase requested in FY 1996 for Youth/Community Building/Partnerships will allow greater support for programs which involve the arts in addressing substantive areas of social concerns and in strategies to support strong communities. It will respond to the increased number of opportunities for artists and arts organizations to play key roles in innovative programs to provide activities which engage the imagination and energies of young people at-risk of delinquency and substance abuse. These programs often have the added benefit of expanding access to and participation in the arts for their families and members of the community.

Furthermore, the Endowment will continue to maximize the impact of these funds through collaborations with other federal agencies, public agencies, and private groups. These partnerships leverage a significant match of the NEA funds and broaden the involvement of artists and arts organizations in the broad foundation of community support services -- criminal and juvenile justice activities, health, employment, housing, public resources, and social services programs.

Question. How does this program compare with other NEA priorities?

Answer. The funding allocation for Youth/Community Building/Partnerships enables support for innovative, nationally significant projects which uniquely link three priority goals of the agency -- investing in communities, in our children, and in our culture through partnerships. These funds are not administered as a separate program specifically to ensure their utilization for projects which may 1) cross-cut artistic disciplines; 2) be located in venues traditionally associated with other federal entities (i.e., public housing, juvenile justice system, community mental health services); and 3) address in an integrated way the needs of and opportunities for at-risk youth, their families, and their communities.

MILLENNIUM PROJECTS

Question. A new category called Millennium Projects has been added to the program grants. The Millennium Projects account for \$1,000,000 of the NEA's proposed \$5 million budget increase.

Please describe what is meant by Millennium Projects. Provide some examples of Millennium Projects.

Answer. Millennium Projects initiative will assist and encourage a variety of projects which celebrate and bring to the public the achievements of the arts in the 20th century and which encourage the dialogue about the future of the arts into the 21st century. The agency will respond to applications that mark the approaching end of the century with performances, exhibitions, commissions. Examples of Millennium Projects:

1) The turn of the century provides an extraordinary opportunity for us to define who we are in the year 2000. In the past, the American government has made a stunning record in photographic surveys of Americans. Now is the time to record who we are in a great photographic survey conducted from the local to the state and federal levels. From this will come a comprehensive touring exhibition after the model of "The Family of Man," photographic surveys of each state, which will be exhibited in Washington, and countless surveys conducted at the local level. All this material will eventually be deposited in the National Archives, comprising a unique record of how America saw itself in the year 2000.

2) National Folk Arts Exhibition. What is the "real" America? It is surely reflected in the traditional artists (fiddlers, weavers, flutists, dancers, vocalists) in every part of the country who connect us to community and to our past. This often hidden America will be brought to light in a great touring exhibition that honors our folk and traditional artists, their communities, and our heritage.

Question. Have these types of projects been previously funded in other grant categories? If so, at what funding level and when?

Answer: No photographic survey has been funded. No comprehensive

exhibition of our folk and traditional heritage has been funded. Smaller exhibitions have been mounted (a total of four in three years) in folk arts. These projects use the Endowment's organizational resources, networks and expertise. They also enable the Endowment to exercise its skills in raising matching funds.

Question. Are these projects of higher priority than other grant programs?

Answer. In their scale, ambition and national service, Millennium Projects are an expansion of what the Endowment already does for the public. It is not a higher priority, but it is an opportunity to maximize the potential of the arts to serve the Nation.

Question. The Endowment is proposing to commission new works to mark the end of the century. How will these new works be presented? Why does the NEA see these works as particularly important for the turn of the century?

Answer. Every person, every family, every community has something to remember, to commemorate--an anniversary, a transforming event. The celebration of our national memory has taken many forms, from the Iwo Jima Memorial to Aaron Copland's "Fanfare for the Common Man." The Endowment plans to ask communities across our nation what they wish to commemorate in the century past, what will further define their identity as we turn our faces to the new century.

We will invite community, town and city-based projects in all the arts, in association with local and state arts councils, to 1) Mark public space with art that refers to significant events (the Vietnam Veterans Memorial was developed with Arts Endowment money); 2) Community based composers to mark and celebrate (just as Tchaikovsky's "1812 Overture" did) important past events in that community, city and nation--to be performed as the year 2000 approaches--by choruses, chamber and symphony orchestras, and opera companies. 3) Commission playwrights, poets and novelists to take as their theme transformative events, local and national, to be presented as the year 2000 approaches.

The Arts Endowment sees the year 2000 as an opportunity to summon the multiple talents of our people to celebrate who we are, to educate the young, to foster local and national pride, to give unity and direction to our society and help it face the future with a sense of the civilities that the arts infuse into the social body.

INTERAGENCY FUNDS AND GIFT FUNDS

Question. The budget justification on pages 16 and 17, indicates that there are a number of interagency and gift funds, although in relatively small amounts, that the NEA receives in addition to the appropriated amounts under this Subcommittee's jurisdiction. What amount of additional funds were received in FY 1994?

Answer. A total of \$952,710 in donated funds was received in FY 1994 for both restricted and unrestricted purposes and reimbursements. The donated funds were used to underwrite activities and initiatives such as the Arts Endowment's ART-21 Conference in Chicago, the 1994 Medal of Arts awards, the National Heritage Awards Fellowships in the Folk Arts, the Public Service Design Awards, and the 1994 American Jazz Masters Concert in Boston.

Question. What were the sources of these funds?

Answer. Sources include corporations such as Ford Motor Company, Binney and Smith, Coca-Cola Company, Mobil Corporation, American Express and J.C. Penney; foundations such as Dayton Hudson Foundation, John T. and Catherine D. MacArthur Foundation, Rockefeller Foundation, and several private individuals. For amounts and sources of interagency funds and private partnership funds received in FY 1994, please see the response to questions on partnerships.

Question. What determines which programs benefit from these

funds?

Answer. Interagency and gift funds are usually the result of partnership efforts between the Endowment and a partner, in the public or private sector, that believes the Endowment can help advance goals and priorities that are common to both. Each such effort is reviewed at each step of the process by Endowment program, administrative, and legal staff, and each is approved by the Chairman, usually following review by the National Council on the Arts.

PARTNERSHIPS

Question. Your NEA budget justification indicates that the NEA has numerous partnerships and collaborations with others, such as the Department of Education, the Department of Commerce, the Department of Transportation, the Kennedy Center and so forth. Please explain more about these partnerships and collaborations.

Answer. The National Endowment for the Arts currently has 29 formal agreements with other federal agencies to participate in collaborative partnerships. Among these agencies are the Departments of Agriculture, Commerce, Education, Housing and Urban Development, Justice, State, Transportation, Health and Human Services, the General Services Administration, and the U.S. Information Agency.

In some cases these collaborations involve a pooling of resources for specific purposes. Under 8 current partnership agreements, the Arts Endowment funding commitment has been matched by the other federal agencies by a 2 - 1 ratio. Examples of joint-funding ventures include the partnership between the Endowment and the United States Information Agency to support the Fund for U.S. Artists at International Festivals and Exhibitions and the Goals 2000 Arts Education Partnership, an intended 3-year collaboration with the Department of Education and over 100 national arts and education organizations to assist in the implementation of voluntary curriculum standards which include the arts.

Eleven of the current interagency partnerships involve funding commitments by other federal agencies, with no obligation of funds by the Arts Endowment. Another 4 involve no funding exchanges and 6 partnerships utilize only Endowment funds.

Not all of the Endowment's federal partnerships involve the obligation of funds. In many cases, the role of the Arts Endowment is to provide a leadership perspective on the importance of the arts to the missions and programs of other federal agencies and to facilitate the involvement of artists and arts organizations in federally-supported programs. For example, discussions between the Arts Endowment and the Department of Health & Human Services have resulted in the recent inclusion of arts organizations under the funding guidelines of the Substance Abuse and Mental Health Services Administration (SAMHSA) for the grants awarded to community coalitions which provide substance abuse and mental health services throughout the nation.

Another result of the Endowment's interagency discussions is to "open up" federal programs which have not traditionally involved the arts and arts organizations in strategies which will enable communities to address critical social problems. Of particular importance are those programs designed to serve our young people who are increasingly at risk of violence, substance abuse, and alienation. Among these initiatives are Writers Corps, the Endowment's collaboration discussed earlier with the Corporation for National Service and Associated Writing Programs to address literacy needs of both youth and adults, and the partnership with the Department of Justice's Office of Juvenile Justice & Delinquency Prevention (OJJDP) to support after-school and weekend programs for at-risk youth through a grant program called "Pathways to Success".

These partnership collaborations further the mission of the Arts Endowment to increase access to the arts for all Americans through support for artists and arts organizations.

Question. Does NEA expect to receive funding from other federal and non-federal sources in FY 1996? If so, how much and from where?

Answer. The Arts Endowment expects to maintain some of the current agreements which involve funding exchanges between the Arts Endowment and federal and non-federal entities in FY 1996 and to initiate new ones.

Question. How much funding is received annually from non-federal sources? Could some of these sources be called upon to contribute more resources to the NEA activities or take over selected programs? Please explain.

Answer. The Endowment enters into several projects jointly funded with private sector partners but for the most part, very little money actually flows through the Endowment's accounts -- rather, the money is paid directly to the organization carrying out the project. For example, during FY 1994 only \$153,000 of non-federal project money actually flowed through our accounts; in FY 1995 we estimate that \$450,000 of private project funding will flow through our accounts.

These partnerships rely greatly on the federal leadership role of the Arts Endowment to encourage non-federal involvement and support. Efforts are consistently undertaken to increase the non-federal support levels. Without federal leadership it is doubtful if those collaborations which involve the larger non-federal funding support would be undertaken at all by the private sector.

At the same time, it is extremely unlikely that significant private funds could be raised to "take over" Endowment programs in any area. Foundations and private individuals already have their own funding priorities.

Question. Do NEA funds go to other federal agencies for distribution? If so, how much and what is NEA's role in the distribution of those funds?

Answer. There are extremely limited instances when NEA funds are transferred to another federal agency. Even more rarely are NEA funds "distributed" in grants by other agencies. In the case of the FY 1995 partnership between the Department of Justice and the NEA to fund after-school and week-end programs for at-risk youth, \$100,000 in NEA funds will be joined by \$800,000 in DOJ funds. DOJ will conduct the competitive grant process. Under the partnership agreement, the NEA collaborates on the program design, dissemination of application materials, and review of applications.

Question. Do the Department of Education and NEA match funds for specific projects? If so, give some examples of projects and the process for awarding these funds. What about other Departments?

Answer. In FY 1995 the Department of Education and the NEA will each commit \$80,000 to support the Goals 2000 Arts Education Partnership, a coalition of more than 100 arts and education organizations that are seeking to assure that the arts become a central component of state and local education reform plans. An announcement was placed in the Federal Register, and a program solicitation was issued for an open competition. A cooperative agreement will be awarded to the proposer who best meets the review criteria published in the solicitation.

Another project jointly supported by the Department of Education and the NEA is Arts Edge, a national arts education interactive information network, that is currently being piloted. Initially bid competitively, a cooperative agreement was awarded to the Kennedy Center to develop and pilot this network. In FY 1994, the NEA and the Department of Education each committed \$125,000 to this project. In FY 1995 the NEA is committing \$200,000 and the Department of Education is committing \$175,000.

Other federal agencies which are involved with the National Endowment for the Arts in jointly-funded projects include the General Services Administration, the Department of Health and Human Services, the Japan-U.S. Friendship Commission, the Department of Justice, the Corporation for National Service, and the U.S. Information Agency.

CHALLENGE PROGRAM

Question. The Challenge Grant program, which is requested for \$12,795,000, requires a \$3 to \$1 match. This program is described as offering grants which look beyond an organization's current needs and programming -- towards its long-term stability or artistic achievement (Page 131 in NEA's budget justification). Under the Challenge Grant program, organizations can apply for institutional stabilization or project implementation support.

The budget justification states that "the institutional stabilization grants are awarded to: establish or augment an endowment; establish or augment cash reserves; reduce or eliminate the principal portion of long-term notes payable; reduce or eliminate accumulated fund balance deficits; create or augment other capital funds; and construct, renovate or purchase facilities."

Why do you believe it is the federal government's role to reduce or eliminate the principal portion of long-term notes payable?

Answer. The federal government, through the Arts Endowment, plays a unique role in stimulating non-federal support aimed at stabilizing the Nation's great artistic organizations, be they large or small. By far the largest amount of Challenge funds used for the reduction of long-term notes payable is used to reduce or eliminate building mortgages. Facility fixed costs dominate arts groups' budgets and affect programs to a greater extent than most industries, yet debt elimination is among the most difficult purposes for which to secure local funds. The rigorous review to which all NEA Challenge applicants are subjected assures otherwise reluctant funders that the organization is artistically and administratively worthy of support. The Challenge grant acts as seed funding and encourages additional giving from private and other public sources.

Arts Endowment funding for the reduction of long-term debt carried by arts organizations -- again, in most cases for the purpose of paying for facilities or renovations -- has the effect of stabilizing arts organizations and augmenting their artistic capabilities. The institutions are then able to maintain operations as economically viable community service organizations and redirect funds to enhancing the artistic assets provided to the public.

Question. Why do you believe it is the federal government's role to reduce or eliminate accumulated fund balance deficits?

Answer. Each of the specified uses of Challenge funds is aimed at helping institutions stabilize their financial position and provide service to their communities. Generally, Challenge Grant support to reduce or eliminate an accumulated fund balance deficit is undertaken in conjunction with other financial objectives, such as an endowment fund campaign. Panelists consider the circumstances which created the deficit as well as the steps the organization has already taken to reduce it. Giving to eliminate an accumulated deficit is perceived as one of the least glamorous charitable contributions. Federal support provides an important incentive for other contributors to assist an arts organization to defray its accumulated deficit, and to begin building an endowment.

For example, an FY 1994 Challenge grant will eliminate an \$83,000 accumulated deficit carried by The Oakland (California) Ballet. After weathering the severe downturn in the area's economy, and being hard hit by the national recession as well as by earthquake and fire damage, the Oakland Ballet has gone through extensive planning that has led to a major fundraising effort called Campaign 2000. The company hopes to secure its future by expanding the depth of its artistic activities as well as launching endowment and cash reserve campaigns. While the deficit amount is relatively small, the company realizes that it is a psychological barrier to funders as well as an unnecessary drain on the budget.

Question. Why do you believe it is the federal government's role to create or augment other capital funds?

Answer. Since 1985 only three grants have been awarded to support the creation of other capital funds. Other capital funds are restricted funds held for a specified future expenditure. For example,

an FY 1988 Challenge Grant provided the American Film Institute \$500,000 to establish a bond sinking fund for the payment of bond principal upon maturity. The bonds were issued to secure capital for the purchase of the Institute's campus in Los Angeles.

Question. Why should the federal government participate in constructing, renovating and purchasing non-federal facilities?

Answer. Appropriate facilities are intrinsic to the health of arts organizations. They are an imperative to arts organizations, not a luxury. Appropriate facilities are essential to an organization's efforts to develop and serve audiences and to predict its finances. Arts organizations are economically inseparable from the facilities that house them. This is because they are highly dependent on revenues from audiences or users of their facility. (Typically, about half of annual revenues are earned.) While facilities contribute to overall financial health of arts organizations, inadequate facilities can lead to debilitating management problems, financial instability and artistic compromises.

Question. How are the project implementation grants different from other categories of grant programs.

Answer. The project implementation component of Challenge provides one-time only funding for major projects which are a substantial departure from existing operations. Typically, these projects could not be funded by existing categories in the discipline programs. This is also the only source of funding within the NEA for consortia, or groups of organizations, jointly undertaking a mutual project.

Question. Are there limitations on the numbers of times that an institution can apply for a Challenge grant? If so, what are the requirements? What is in place to allow the funding to be spread among other institutions?

Answer. Previous Challenge grantees must complete one full fiscal year of operations following the end date of their Challenge Grant before submitting another Challenge application. In addition, previous Challenge grantees may not request more than \$250,000 for Institutional Stabilization support. These measures have insured that "new" institutions receive funding. For example, in FY 1993, 19 of the 60 grantees (32 percent) were first-time Challenge Grant recipients; in FY 1994, 28 of the 50 grantees (56 percent) were first-time Challenge Grant recipients; and, in FY 1995, 26 of the 44 grantees (59 percent) were first-time Challenge Grant recipients.

COMPUTER REPLACEMENT

Question. The FY 1996 budget requests an additional \$1.5 million for "the FY 1996 portion of the computer replacement effort." To begin the replacement of the Wang Laboratories, Inc. mainframe system, the Endowment moved \$900,000 from FY 1995 program areas to begin implementing the initial phase of a computer replacement plan.

When did the computer replacement planning effort begin?

Answer. Detailed planning for the computer replacement effort started in December 1992.

Question. Describe the target system and what will be done with the FY 1995 funding. At what stage is the computer replacement plan currently?

Answer. The target system will be a non-proprietary local area network (LAN) where approximately 300 micro-computers and peripherals are cabled together forming a modern, powerful, flexible, information processing and computing platform. The FY 1995 funding will be used to:

- 1) Acquire LAN-related services, hardware and software;
- 2) Design, install and implement an agency-wide LAN computing platform;

3) Upgrade and standardize all PC-based application software packages and transfer them to the new LAN server(s);

4) Procure and install electronic mail on the new LAN; and

5) Connect the new LAN to the National Information Infrastructure (Internet).

The first phase of the LAN Migration Project is targeted for completion this fiscal year (FY 1995). This phase of the project centers around the development and implementation of the agency-wide PC LAN computing platform. The agency has completed internal reviews for the contract solicitation package, and is in the process of awarding a contract through the Small Business Administration for this work. The budget estimate for the LAN Migration Project this year is \$900,000.

Question. For what would the FY 1996 requested funding of \$1.5 million be used?

Answer. The second phase of the LAN Migration Project, scheduled for FY 1996, will focus on the conversion and reengineering of the agency's Corporate Information System. Phase II costs are expected to include: \$1,100,000 for development and reengineering of the agency's mission-critical Corporate Information System (including the Grants Management System, the Financial Management Information System, the Automated Panel Bank System, the Central Balloting System, and the General Mailing System), and conversion of historical data; \$100,000 for supplies and materials; and \$300,000 for hardware and software. Funds for this phase of the project are anticipated to be obligated in FY 1996, with expenditures in FY 1996, FY 1997, and activity concluding in FY 1998, when the project will be completed.

Question. Can the FY 1996 effort be phased? If so, how?

Answer. Yes, the FY 1996 effort can be phased. Since our overall strategy is based on a flexible, phased implementation approach, we can make adjustments without destroying the basic plan.

Question. What are the future funding needs (by year) and what activities would be accomplished? When would the agency be completely converted to the new system?

Answer. Overall funding for this project is anticipated to be approximately \$2.5 million, with the majority of the funds requested in FY 1995 and FY 1996. Under the current plan, the agency would be completely converted to the new system no later than FY 1998.

Question. How would the new computer system affect FTE's?

Answer. Under the current world-wide era of shrinking budgets and shrinking staffing levels, information technology (though no cure-all) can serve as NEA's great enabler. A re-engineered, integrated Corporate Information System, housed on a new agency-wide LAN computing platform, is just the type of enabling tool required to help Endowment staff cope with its current, crushing work load. A computer literate staff equipped with appropriate modern technological tools is a staff empowered to significantly raise its productivity level even in the face of a "do more with less" economic reality.

Question. Does the House's FY 1995 rescission proposal, which is a reduction of \$1 million in NEA administration and \$4 million in program grants, affect the computer replacement project? If so, how?

Answer. Although the Chairman is committed to moving the computer replacement project forward, a cut of \$1 million in the Endowment's administrative budget could be felt partially in the \$900,000 budget for this computer project. Steps would be delayed and the project would take longer to complete.

PRESENTING PROGRAM

Question. The Presenting program is the only category of grants which is proposed for a decrease (-\$360,000) in FY 1996. What is the basis for proposing a decrease in this program?

Answer. The Presenting program administered several subgranting categories which are being discontinued.

Question. The budget justification states that the Presenting program uses Underserved Communities Set-aside funds to support the Dance On Tour initiative and Regional Arts Organizations Consolidated Presenting Support. What does this mean and how much is used for each endeavor?

Answer. The Presenting Program uses approximately \$200,000 of Underserved Set-Aside funds to support Dance on Tour, and some \$500,000 of these funds for the Regional Arts Organizations Consolidated Presenting support. Both Dance on Tour and Regional Presenting funds are used to bring a range of performing arts activities (in dance, theater, jazz, folk and choral music, etcetera) to communities throughout the Nation. The Underserved Communities Set-aside is money to states -- and regional consortia of states -- targeted specifically at inner city and rural areas, and other areas that are underserved artistically, and both the Dance and Regional Presenting categories have substantial resources specifically reaching these populations.

QUESTIONS SUBMITTED BY SENATOR PETE DOMENICI

Question. Last year, the NEA was reduced by two percent. Part of our debate was over whether to target this reduction, or to leave it at the discretion of the agency to determine where these reductions should be made. Ultimately, we decided to leave it up to you to decide where to make the reductions. Can you update us on the nature of the reductions the NEA has made, or plans to make, to meet the objectives?

Answer. The Endowment eliminated virtually all subgranting categories, and reduced other programs modestly. The Endowment was grateful for the flexibility provided, and believes that the cuts were made in a way that was responsive to concerns about economical, effective, and accountable use of funds.

Question. In the event of reductions in the NEA's budget, can you give us any indication of how the NEA may prioritize its awards? For example, will the NEA choose to award more Challenge Grants, more awards to symphonies, opera companies, and theater groups, and less to individual artists?

Answer. The Endowment would continue to eliminate or consolidate categories and to sustain to the maximum extent feasible its Challenge grant program. In making these determinations, the agency would also review once again its programs and structure to insure that it continues to meet its mission: to foster the excellence, diversity, and vitality of the arts in America; and to help broaden the availability and appreciation of the arts, bringing the best art to the most people. The question of whether to eliminate or reduce grants to individual artists is a difficult one. There are over one million working American artists. They are responsible for new works performed by orchestras and symphonies, new dance choreography, as well as paintings and sculpture in our museums. All art begins with the individual. The Endowment's founders recognized that essential fact in our statute and the Endowment remains committed to supporting individual artists in some meaningful fashion.

Question. Is the NEA working to better coordinate efforts between the federal arts agencies and state and local agencies?

Answer. Yes. Since June of 1994 the Arts Endowment has held a series of meetings with leaders of the National Assembly of State Arts Agencies, the National Assembly of Local Arts Agencies, and Endowment staff. The purpose of the meetings has been to explore ways in which we might better coordinate to make the most of our joint investment in the arts. These discussions are still ongoing, but they have already served to identify areas in which the federal role is most important from the perspective of the state and local arts agencies. For example, state and local arts agencies have told us that they look to the Endowment for its unique national overview and perspective, for its vision in starting and implementing new initiatives in areas such as arts and technology, folk and traditional arts, arts in education, and arts and youth-at-risk. They look to the Endowment as the key partner in leveraging private investment in the arts. They also look to the Endowment to support organizations and activities with national impact and to support fields, such as design and literature, with relatively little support at the state and local levels. They look to the Endowment to support the national and regional distribution of arts programs. As the Endowment proceeds with its planning, much consideration will be given to state and local perspectives on how the Endowment can best support and complement state and local arts agency efforts.

Question. What sort of initiatives is the NEA pursuing to assist state and local arts agencies in becoming more self-sufficient, in the event that federal funding is not as readily available?

Answer. The Arts Endowment has always encouraged more state and local support and self-sufficiency. The State & Regional Program Guidelines state that "while the Arts Endowment is an important source of support for state arts agencies, it is not their primary source of support." As a group these agencies receive 6.7 times as much funding from their state governments as they receive from all Endowment sources. In reviewing plans submitted by the states, the Endowment's panels look for "evidence of commitment by state government to financial support of its designated state arts agency." And where elected leaders have proposed elimination or drastic reduction in state arts support, the Endowment has indicated in writing that such actions would jeopardize federal funding.

With regard to local arts agencies, all support provided through the Endowment's Local Arts Agencies Program is designed to make these agencies more self-sufficient. Funds awarded through this program leverage new local funds for support of locally developed community cultural plans.

While state and local arts agencies as a group have become more self-sufficient, many still depend to a great extent on Endowment support. This is especially true in the smaller and more rural states. For example, a fifty percent cut in Arts Endowment grants would translate into a reduction of about one-third in the overall budgets of state arts agencies in North Dakota and Wyoming. If federal funding disappeared altogether, it is very likely that some state arts agencies would disappear as well. They might survive the loss of federal dollars but would not likely survive the loss of the federal incentive and the federal example which have done so much to attract state support.

EXTENT OF PRIVATE CONTRIBUTIONS TO THE ARTS AND HUMANITIES

Question. The President's budget requests \$11 million increase for the National Endowments for the Arts and the Humanities, bringing the total request for the two agencies to \$384.2 million. Both the Arts and Humanities Endowment legislation allow private contributions. How does this work?

Answer. Both Endowments may accept "money and other property donated, bequeathed, or devised to that Endowment with or without a condition or restriction." The Arts Endowment's long standing policy is to accept donations only from individuals and organizations that are not eligible to apply for support. As provided in the Arts Endowment's legislation, the legal criteria for eligibility is tax-exempt status pursuant to 26 U.S.C. § 170(c) (Internal Revenue Code, as amended in 1986). The General Counsel of the Arts Endowment reviews each prospective donation to determine: 1) whether the prospective donor is eligible to apply for support from the agency; and 2) if applicable, whether the purpose or condition of the donation is consistent with the statutory mission of the Arts Endowment. If the General Counsel determines that the donor is not eligible to apply for support and the donation is unrestricted, or for a restrictive purpose consistent with the agency's statutory mission, the donation is approved. Unrestricted donations are expended for purposes consistent with the Arts Endowment's statutory mission. Proposed expenditures of unrestricted donations also must have the prior approval of the General Counsel.

Question. I am told that the Arts and Humanities received approximately \$800,000 last year in private and in-kind contributions. Why do you think that figure isn't higher?

Answer. It is difficult to convince private foundations and corporations, as well as individuals, to contribute money to a public grantmaking organization on an unrestricted basis. Private givers are much more likely to join in partnership in funding a project or organization, and the Endowment has been quite successful in identifying successful partnerships. Even though the Endowment is often the entity bringing the least amount of money to the table, its imprimatur is deemed important by the other partners.

Further, when a public agency such as the Endowment engages in fund raising, it is drawing away potential funding from the very organizations it serves. With statistics illustrating that private giving in the arts is decreasing, the likelihood of the Endowment being able to identify new funds that would not put it in competition with its potential grantees and others is slim.

The strength of the Endowment's grantmaking process is that a small amount of federal money conveys national recognition of artistic excellence and merit, which serves as a catalyst for leveraging additional public and private funds within its community - at the state and local levels. Without that federal catalyst, it is often difficult for organizations to raise other money.

Question. Do you think people prefer to support projects closer to home? What level of support exists for the arts generally?

Answer. Statistics demonstrate that people prefer to support projects closer to home. The Business Committee for the Arts finds that most businesses supporting the arts allocate a majority of their resources (87 percent) to arts projects in their headquarters and major operating communities. This is a logical extension of how corporations view their responsibility to the towns and communities in which they are housed, and how the quality of life within those towns and communities affects their employees. And, while some foundations have a national scope, most are local, state or regional in focus and limit their giving to those areas. The reach of charitable foundations often is limited by the directives of their founders.

Generally, public support for the arts is quite high. A recent Louis Harris national poll found that 60 percent of Americans support federal arts funding. Almost one-quarter make individual contributions to the arts. Of those surveyed, 75 percent believed that "government can be helpful to artists in funding their work and in helping them gain recognition, but government must not dictate to the artist what the artist should create." Further, 89 percent of Americans believe that "what people appreciate in the arts depends on the taste of each individual, so a wide diversity of artistic expression is desirable," and 84 percent agree that "good art is a reflection of the life and times of a nation and a culture, including expressions which support as well as criticize existing values." What is particularly interesting about these survey results is how they cut across racial and educational groups. According to the survey, 81 percent of African Americans support federal funding, as do 80 percent of Hispanics and 55 percent of Whites. High school graduates favor funding by 58 percent; two-year college graduates by 65 percent; four-year college graduates by 56 percent; and those with postgraduate degrees by 69 percent.

THE EXTENT OF FEDERAL SUPPORT FOR ARTS AND HUMANITIES

Question. According to the Congressional Research Service, there are an estimated 200 arts and humanities programs scattered throughout various departments and agencies of the Federal Government for an estimated funding level of \$1 billion. Funding for the NEA and NEH constitutes .02% of the total amount of federal funding. Why do you think people use the NEA and NEH as reasons to question the federal role in the arts when they make up such a small portion of federal funding?

Answer. There seem to be three overall reasons why some people question the federal role in funding the arts, and only one of those reasons really has anything to do with the amount of money the government appropriates for the two Endowments. One school of thought, which is probably not the dominant one, is that federal funding for the arts is not Constitutional -- that the Founding Fathers never intended a function for the federal government to be funding for the arts. A second reason addresses one of content -- that, if art funded by the government cannot be appealing to all Americans, such art is inappropriate for funding with public money. The third reason confronts a genuine money issue -- that, in a time

of fiscal constraints, the government has to set priorities about what activities can be funded and what must be passed on to the private sector or otherwise devolved or eliminated.

When the Endowments were founded by Congress, the role of the federal government was declared in the authorizing legislation including that the "encouragement and support of national progress and scholarship in the humanities and the arts, while primarily a matter for private and local initiative, are also appropriate matters of concern to the Federal Government." The review process of grant applications to the Endowments is a rigorous one, with a broad mix of panelists from geographic areas, backgrounds, and racial makeup; a Council review, whose makeup is equally diverse, and a Chairman's review. These combine to help assure that work of artistic and scholarly excellence and merit are funded and made accessible to as broad a public as possible. Even in a time of fiscal constraints, the small federal investment in the arts and humanities generates private sector giving; exerts leadership in identifying and responding to traditionally underserved constituents; and extends the reach and resources of the arts and humanities by working with other federal agencies, national foundations, the business community and others to identify mutual interests and concerns, to ensure they employ the arts and humanities to achieve their goals, and to create partnerships and collaborations.

Question. What would you say, from your standpoint, is the distinction between federal support for the arts and humanities through tax expenditures and direct grants?

Answer. Corporate donations to nonprofits are tax-deductible, up to a limit of 10 percent of the company's taxable income. Companies are supposed to subtract from the donation the value of any benefit they get from the gift. So, for example, if a company donates \$1,000 to an orchestra and, in exchange, receives a free season pass worth \$300, the company is supposed to deduct from its taxable income only \$700 (although the company may deduct the \$300 pass as a business expense, as if it had actually bought that pass). In the competitive nonprofit arena in seeking corporate contributions, the use of these inducements is fairly common; so, in effect, while a business would get an entire \$1,000 write-off, the nonprofit is only receiving \$700 because it incurred a \$300 expense (the value of a season pass) in raising \$1,000. Yet, despite the advantage of businesses donating to nonprofits, arts and humanities organizations are not the overwhelming beneficiaries. According to a 1994 survey by the Business Committee for the Arts (BCA), "Although economic predictions [were] more positive for 1994 than 1993, most companies are taking a conservative approach to their philanthropic activities and some companies (42 percent) are shifting resources from the arts to education, health and human services, and environmental initiatives." The average dollar amount given to the arts is projected to decrease to 14 percent in 1994 from 17 percent in 1993 of total philanthropic budgets.

When an organization receives a direct grant from the National Endowment for the Arts, it receives a grant unincumbered from expectations of potentially costly thank you gifts or rewards. The value of the Endowment's grant is that a small amount of federal money conveys national recognition of artistic excellence and merit, which serves as a catalyst for leveraging additional public and private funds within its community -- at the state and local levels. Without that federal catalyst, it is often difficult for organizations to raise other money.

LEGISLATIVE STATUS OF THE NATIONAL FOUNDATION FOR ARTS AND HUMANITIES

Question. The Appropriations Committee could take the position that all programs not authorized will not receive appropriations. Have you been given assurances by the authorizing committees that you will be reauthorized this year?

Answer: The Senate Labor and Human Resources Committee, and

its Subcommittee on Education, Arts and Humanities, conducted hearings on the subject of NEA reauthorization on January 26 and February 23, 1995, respectively. In the course of those hearings, both the Committee and Subcommittee chairmen, Senators Kassebaum and Jeffords, gave assurances that the Committee would move forward in reporting and taking a reauthorization bill to the floor of the Senate; legislation, should be introduced within the month.

With respect to the House, the Endowment understands that both the Economic and Educational Opportunities Committee Chairman, and the Early Childhood, Youth and Families Subcommittee Chairman, Representatives Goodling and Cunningham respectively, are committed to initiating the reauthorization process with a hearing prospectively during the month of May. The Endowment is working with staff in the House to develop a reauthorization bill.

Question. Other than a simple reauthorization, what other options are being discussed for the NEA and NEH, and have you taken a position on any of these?

Answer: To date, only one reauthorization proposal has been formally introduced (by Rep. Yates) - that being a simple extension of existing programs similar to the bill which passed the House in late 1993. That legislation failed to pass the Senate in 1994, hence the NEA's current unauthorized status. At this time, numerous reauthorization options are being tendered by interested parties throughout the country, most of them unsolicited. It is too early to speculate what the parameters of the Senate legislation will be. With respect to the House, Rep. Williams announced on March 14 that he intends to introduce legislation to continue the NEA with moderate changes funded at a level equaling 1 percent of total government outlays for the preceding year (\$1.2 billion approximately). Rep. Gunderson also announced on March 14 that he intends to introduce legislation that would lead to privatization of the NEA over a seven-year period. NEA is reluctant to take a position on any proposal not yet reduced to legislative form, and therefore has not taken an official position on any of these proposals. However, in light of the testimony presented in the Senate authorization hearings, and continuing in-house research and investigation of privatization options, the NEA believes it would be impossible to raise sufficient funds in the private sector to sustain grant giving at current NEA levels over any period of time.

APPROPRIATENESS OF INCREASED STATE SET-ASIDES

Question. During the last Reauthorization in 1990, the state allocation was altered so that more money was going directly to States. How would you assess the impact of this change on States and the NEA? Would you suggest an altering of that percentage?

Answer. The 1990 reauthorization increased the program funds designated for states under section 5(g) of the legislation from 20 to 25 percent in FY 1991 and from 25 to 27.5 percent in FY 1993 and thereafter. The reauthorization designated a further 5 percent in FY 1991 for grants to states for projects in rural, inner city, and other artistically underserved areas. That percentage increased to 7.5 percent in FY 1993. In all, 35 percent of program funds are now designated for grants to states, in contrast to 20 percent designated previously.

One impact of these changes has been a reduction in the number and size of direct Arts Endowment grants to artists and arts organizations. Grants awarded through the Endowment's discipline programs declined by 18 percent in dollar terms from FY 1990 to FY 1993. This translates into smaller grants, and for some previously funded groups, no grants.

An assessment of the impact on state arts agencies is complicated by the fact that aggregate state arts appropriations declined sharply, from \$292 million in FY 1990 to \$213 million in FY 1992. This reduction was due largely to state budget shortfalls. Since FY 1992, state arts appropriations have partly recovered and now stand at \$266 million. Nevertheless, the increase in federal

support to state arts agencies has been more than offset by the decline in state support. State support in every arts discipline area was lower in FY 1993 than it was in FY 1990.

One positive development is in support for arts projects in underserved areas. We believe that the funds designated for grants to states for projects in these areas have made a difference in many rural and inner city communities. Since FY 1991 over 500 grants have been awarded to state arts agencies to support projects reaching underserved areas in 55 states and jurisdictions. The availability of this support has encouraged and enabled agencies to develop programs in communities that previously had little or no access to the arts. These programs have involved touring, preservation of the traditional arts, artist residencies in rural towns, and development of local arts agencies and rural arts organizations.

The increase in state activity in these areas is a direct result of the leadership that the Arts Endowment has been able to provide. The increased activity at the state level complements the important direct support the Endowment provides for the arts in underserved areas through its Expansion Arts, Folk & Traditional, and other programs.

Question. Why not send all the money directly to states? What "national" role would you argue the NEA plays? What kinds of investments in the Arts and Humanities are most appropriate at the federal level and what investments are not in the national interest?

Answer. Currently the Endowment directs money into the states in two ways. First, state support is in the form of basic state block grants which bring with them incentives for state legislature appropriations. This money is unrestricted and can be used in such manner as the state arts agency deems appropriate. Second, additional support is awarded to arts organizations, local arts agencies, and individuals in all 50 states through the competitive grants process throughout the Endowment. In essence, all funding provided by the Endowment serves the states, either through direct support of the state arts agency or through direct support of the arts organizations and artists within that state. This two-tier support gives the states a vital support structure. Through the block grants, the Endowment recognizes the importance of the state arts agency in identifying its state's unique needs, provides leverage for the state arts agency's state appropriation, and gives unincumbered funding which is guaranteed each year. State arts agencies have successfully used the potential loss of federal funding as an incentive when state legislatures have sought to zero fund or drastically reduce funding. Nonetheless, funding from the state legislatures can be volatile. In FY 1994, legislatures appropriated less money than the prior year for 24 state arts agencies and, in FY 1993, 33 state arts agencies had decreases, with 11 having decreases in both years (Alaska, Arizona, California, Colorado, Illinois, Kentucky, Louisiana, Maine, Oklahoma, Utah, and Vermont).

Through its competitive funding process, the Endowment brings national recognition to organizations and individuals within the state, and with that recognition comes the ability to leverage approximately three times the private support than public funds awarded at the state or local levels.

Exclusive of the private funding it leverages, the Endowment's combined effect of state block grants and competitive funding awards, in many instances, provides more money than the state appropriates. For example, from 1987 to 1991, the Endowment awarded a total of \$14.9 million in New Mexico, and the state provided \$4.1 million; \$2.7 million in Idaho, while the state provided \$1.7 million; in Washington, it was \$14.6 million, with \$10 million from the state; and in Mississippi it was \$3.3 million, with \$2.3 million from the state.

The function of Endowment funding is different from that provided by the states. Grants from the National Endowment for the Arts are a matter of national prestige, and its funding process relies on the most extensive, democratic, and highly regarded review system in the nation. The agency's funding awards provide valued direction to private and corporate funders. The Endowment is

uniquely positioned to support projects that serve the entire country and help Americans share their diverse artistic cultures with one another. Because its perspective is national, the Endowment is positioned to identify and serve traditionally underserved (geographically isolated rural, inner-city poor, and certain ethnic) populations, as well as senior citizens, disabled people, and people living in institutions. Its leadership in such areas has instilled and continues to underscore awareness and responsiveness to these populations at the state and local levels and in the private sector. Endowment funding encourages performing arts groups to tour outside of their states, often to rural areas that would not otherwise have such access. And the Endowment helps regionally based culture, such as the music of Appalachia or artwork of Native American tribes, reach wider audiences outside of their indigenous areas.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

EFFECT OF THE PROPOSED RESCISSION

Question. The FY 1996 request for the National Endowment for the Arts totals \$172.4 million, an increase of \$5 million above the FY 1995 enacted level. The increased funds are proposed to be used for additional grants in various program areas (such as literature, museums, and music), as well as enhanced attention to initiatives for youth and community partnerships and millennium projects. Ms. Alexander, last week the Interior Subcommittee of the House Appropriations Committee recommended a \$5 million rescission of FY 1995 funding, which would reduce NEA funds in total to a level of \$162.4 million. It is my understanding that the House has specified that \$1 million of the reduction be taken from your administrative area, and that the balance of the rescission be taken from grant areas which benefit individuals, as compared to organizations.

Of the \$102 million appropriated in FY 1995 for grants, how much remains unobligated as of the last council meeting?

Answer. Of the \$102 million appropriated for grants in the programs (the \$102 million excludes funds, totalling an additional \$40 million, earmarked by statute for the State & Regional Program and the Underserved Set-Aside), \$70 million was committed as of the February Council meeting and an estimated \$57 million will be obligated as of 3/31/95. Of the additional \$40 million earmarked for grants to states and regions, more than \$33 million was committed as of the February Council meeting and an estimated \$32 million will be obligated as of 3/31/95. This will leave a total of approximately \$53 million in grant funds unobligated as of 3/31/95: \$45 million of non-state and \$8 million of state funds.

NEA Grantmaking Funds

	FY 95 <u>Appropriation</u>	<u>Committed</u>	<u>Obligated</u>
<u>Unobligated</u>			
Programs	\$102M	\$70M	\$57M
States/Regions	<u>\$ 40M</u>	<u>\$33M</u>	<u>\$32M</u>
TOTALS	\$142M	\$103M	\$89M
			\$53M

Question. Do the unobligated funds remain in the categories where grants to individuals are made?

Answer. Some unobligated funds do remain in categories where grants to individuals are made.

Question. If the proposed rescission is applied to organizations as well as individuals, how would this affect the grants yet to be awarded?

Answer. The proposed rescission would have to apply to organizations as well as individuals if the amount remains the same as passed by the House. There are insufficient funds in remaining categories where grants to individuals are made. Organizations would, therefore, be vulnerable to more rejections and smaller grant amounts.

Question. In a few weeks, we will be half way through the current fiscal year. What actions would you have to take to absorb a \$1 million reduction in your administrative budget at this point in time?

Answer. We would be forced to make severe cuts in funds remaining for our advisory panels, for staff travel, for printing, postage, and other costs. We would have to eliminate personnel awards. We would do everything possible to avoid furloughing our

employees; but as the fiscal year progresses, and if the amount of the rescission were to remain static, furloughs would at some point be unavoidable.

Question. Are there areas where you can make reductions (such as large equipment purchases, travel, contracts) without having to engage in a furlough?

Answer. We would make reductions, as noted above, in hopes of avoiding furlough. It is not at all clear that we could succeed.

Question. Has the NEA participated in any of the government-wide buyouts? Do you anticipate doing so during the next month in order to help deal with the proposed rescission?

Answer. In FY 1994, the Endowment did participate in the government-wide buyouts; the Endowment had not originally planned to offer buyouts in FY 1995, but finds it prudent to do so for higher-level positions and is offering additional buyouts to be determined by the end of March 1995.

CHANGES TO NEA PROCEDURES

Question. Madam Chairman, discussion about the NEA has consumed considerable time in recent years when the Interior appropriations bill has been debated in the Senate. For some members, the many otherwise acceptable projects funded by the NEA are overshadowed by the few bad examples.

What steps have you taken as Chairman to address some of the shortfalls in the review process to ensure that taxpayer dollars are spent as effectively as possible?

Answer. I have undertaken a number of important changes designed to increase accountability and strengthen the Endowment's grant process. These include (1) elimination of most subgrant programs; (2) guideline changes which require artistic excellence as a primary review criterion and, with respect to seasonal support, allow the Endowment to allocate funding for specific activities with an organization's season; (3) refined application requirements to ensure that the panel, Council and Chairman levels of review have adequate and appropriate information regarding proposed grant activities; (4) tightened reporting requirements before the release of the final third of the grant award; (5) new language in the Program Guidelines and General Terms and Conditions directing that written permission be sought in advance if a grantee desires to change the grant activities from those reviewed by the Endowment three-tier approval process; and (6) further review seeking refinement of the advisory panel process, from appointment of panelists through review of applications.

In addition, I have increased efficiency in the grant process by streamlining management in several areas, for example, by clustering the Visual Arts and Museum Programs under one director and the Music, Presenting, and Opera-Musical Theater Programs also under one director. Further changes in structure and operations are under active consideration.

Question. Among the changes you have made is that seasonal support grants which are used by organizations to provide general support to their annual programming would be subject to modification by NEA if objectionable performances or events were scheduled.

How do you intend to implement this oversight? Will review of the specifics of seasonal scheduling be conducted, so that NEA will be able to evaluate how seasonal support funds are to be used prior to an event occurring?

Answer. I have directed that all program guidelines contain language notifying applicants that "the Endowment may allocate grant funds for support of a particular project(s) or activity(ies) described in the application." Applicants will be asked to apply for specific costs which reflect specific activities in the proposed

project or season. In addition, current information on the specific activities for which Endowment support is requested will be required. Progress reports, now required before the release of the final third of the grant award, and final reports are reviewed to assure compliance with the grant terms and conditions.

Question. Are there additional changes under consideration that you believe would enhance the accountability of NEA funds?

Answer. We are looking at funding parameters and other aspects of current operation to assure accountability of the use of Endowment funds. I believe my current general authority is sufficient to make additional changes, if appropriate.

Question. Do the review panels forward recommendations to the National Council, and to you, that exceed the funding available for a particular grant cycle? If not, why not?

Answer. At present panels usually do not recommend more grants than can be funded in a given program grant cycle. While panels make the initial recommendation for funding, this amount may be adjusted up or down at the Council and/or Chairman level of review.

While the Independent Commission recommended that panels and the National Council recommend more grants than funds available, this recommendation was not included in the 1990 statutory changes and was not independently implemented by the Endowment. Concerns have been raised about both the additional administrative burdens that such a rule would impose and the loss of valuable collective thinking of panelists as well as Council members regarding which applications are the most worthy of funding at various levels.

Question. Do you think such a practice would provide the Council, and you, with a greater choice in awarding NEA funding to projects that are truly meritorious and examples of excellence?

Answer. As noted above, there are legitimate issues pro and con arising out of the practice of panels recommending more grants than there are available funds. I have not made a final determination on this issue.

CONSOLIDATION/STREAMLINING

Question. As part of the "doing more with less" theme of this Administration, NEA has sought to decentralize decision-making, has eliminated two offices, and consolidated four others. Improvements to the Endowment's computer system are intended to help address efficiency.

As budgets tighten, it has been suggested by some that the Arts Endowment, the Humanities Endowment, and some of the other cultural programs funded by the federal government be consolidated in order to achieve savings. What are your thoughts on such a proposal?

Answer. It has yet to be demonstrated that merger of the three federal agencies that fund arts, humanities, and other cultural activities (the National Endowments for the Arts and Humanities and the Institute for Museum Services) would indeed save much, if any, money. All three already have small staffs and small budgets in both the administrative and programmatic areas. Even more importantly, the functions of these three agencies are different. While all are grantmaking agencies, each makes grants in highly specialized areas requiring a staff with particular expertise in artistic disciplines, scholarship, institution building, and so forth. Merging the grantmaking agencies would not change this need, and therefore I suspect that little would be saved in the way of staffing or budgeting. Consolidating the grantmaking agencies with other cultural programs funded by the federal government, such as the Smithsonian, would be like mixing apples and oranges. The grantmaking agencies are different from the other cultural programs by virtue of their function. As opposed to the grantmaking agencies,

the other cultural programs funded by the federal government tend to be arts and cultural institutions or arts and cultural activities.

As indicated in the responses to questions by Senator Gorton, the Arts Endowment has already instituted a number of its own streamlining and cost-cutting measures. For instance, between FY 1990 and FY 1995, the agency has eliminated 27 funding categories, tightened eligibility requirements in 11 categories, and adopted a two-year or alternate-year funding cycle for at least ten categories. Further, in FY 1996, the agency proposes to eliminate or consolidate an additional eight categories and is actively considering additional changes.

I have undertaken a comprehensive review of the program structure and operation of the agency and have instituted many programmatic and management changes. Additionally, in October 1994, I streamlined management in several programs by clustering the Visual Arts and Museum Programs and the Music, Opera-Musical Theater, and Presenting Programs. Further clustering is under review.

The three federal grantmaking agencies are working cooperatively to reduce costs and streamline efforts in a number of areas, including an upgrade of their data and communications technology and a review of common administrative functions.

Question. Are there aspects of the functions of the two endowments and the Institute of Museum Services that could be combined, particularly in the administrative areas? What would you view to be the advantages and/or disadvantages of such a proposal?

Answer. Prior to FY 1978, the Arts and Humanities Endowments shared certain administrative resources. The individuals assigned to these functions were referred to as "shared staff." The administrative budget request for the National Foundation on the Arts and the Humanities included funds for the Arts Endowment, funds for the Humanities Endowment, and funds for the shared staff. This shared staff approach apparently did not work as effectively as initially intended and with the support of the Congress in FY 1978, the shared staff was dissolved resulting in the Arts and Humanities Endowments receiving entirely separate administrative budgets and staffs.

In testimony before the Senate Interior Appropriations Subcommittee concerning appropriations for FY 1978, it was noted that:

The present situation in which the two Endowments and the shared staff operate somewhat independently means that the management functions; for example, personnel, financial management, grants processing, critical to the success of the two Endowments are not directly under the control of the respective chairmen. In theory, the head of the shared staff reports directly to both chairmen. In practice, because of the divided responsibility, neither benefits from the direct relationship which should exist between programmatic concerns and administrative concerns.

Notwithstanding this previous experience, there are administrative aspects of the functions of the Arts and Humanities Endowments which could perhaps be combined. It might be possible to combine administrative services and contracts and procurement, for example. It is likely that both agencies utilize these services in similar manners which would make combining them possible without an extensive transition period. Combining other functional areas, such as grant processing, would be more complex and require considerable examination as well as a transition period. The grant-making operations of each agency differ, reflecting various legislative, programmatic and policy determinations as well as administrative practices. Combining such areas might possibly necessitate a fundamental change in how one, if not both agencies manage their grant-making operations.

The potential savings resulting from combining operations and taking advantage of economies of scale represent the primary advantage of such a proposal; although, as noted above, the shared

staff approach was neither as effective nor cost-efficient as intended.

The loss of direct management control of one's operations and the ability to directly link administrative and programmatic activity; and the challenging notion of having a shared staff director, or individual offices, reporting to more than one "boss," reflects the disadvantages of such an approach. It should also be noted that in the event such changes necessitate Reductions in Force, rather than savings, there could be increased costs in the initial year of undertaking such a transition. We are, nonetheless, actively

COST SHARING/MATCHING FUNDS

Question. In the budget justification (p. 1), NEA contends that each dollar granted to arts organizations by NEA attracts an average of \$11 in non-federal funds.

What is the basis for this estimate? Does it include just direct support for the arts, or does it include indirect benefits, such as the so-called "cultural tourism."

Answer. When the Endowment states that \$11 of non-federal funds are attracted for every \$1 of federal money invested, it is talking about direct support that is leveraged by an organization as it seeks to match its federal grant. On average, the total cost of a project supported by the Endowment equals eleven times the Endowment's monetary contribution to it. Although the Endowment only requires that its grants be matched 1:1 or 3:1, depending upon the program, most grantees exceed that match using the imprimatur of the Endowment.

The importance of indirect benefits, however, should not be discounted. Cultural tourism plays a real and important part in attracting visitors' dollars to an area. For instance, a 1993 study conducted in Sarasota County, Florida, found that cultural tourism generated an additional 1,314 new jobs, \$20,182,504 in payrolls, and \$64,038,204 for the county each year.

Question. What is the minimum matching requirement for your grants?

Answer. The minimum matching requirement for an Endowment grant to an organization is 1:1.

Question. Are grants to individuals currently required to be matched?

Answer. Grants awarded to individuals do not require a match. These grants are awarded based on the excellence and merit of an individual's body of work and are intended to provide the individual some financial security as he/she continues to pursue artistic growth.

Question. Are there special matching requirements imposed on NEA grant recipients who are receiving a second, third, or multiple grant? Would you view such a requirement as a means of lessening dependence on federal support?

Answer. Currently, there are no special matching requirements for individual grant recipients. However, the Endowment is undertaking a thorough analysis of its funding policies and procedures to determine if new parameters need to be set. Decisions made specifically with regard to matching requirements will have to take into consideration the long-range outlook for fund-raising capacity to meet increased matches. Nonetheless, since most grantees are already exceeding their required match, the funding parameters analysis may raise other strategies that would enhance organizational financial stability, thereby lessening dependence on federal funding.

GOVERNMENT VS. PRIVATE SUPPORT

Question. The budget reports (p. 5/6) that corporate giving to the arts, including construction and programming, was approximately

\$518 million in 1991. The budget indicates that this is a decrease of some 18 percent from the level in 1985 (\$634 million).

At a time of increasing concern about federal spending, and with evidence of significant corporate support, why should federal funds continue to be provided for programming?

Answer. At an annual cost of 64 cents per person, the Endowment is an investment that reaps great dividends. Every dollar awarded the Endowment leverages an average of \$11 from state and local arts agencies, arts organizations, corporations, foundations, and other private entities. In 1992, we determined that the agency's \$123 million grantmaking budget leveraged \$1.3 billion in private support. The credibility of the Endowment as the national identifier of artistic excellence and merit has proven to be an important fund-raising tool for most grantees. Public funds awarded at the state and local levels do not, on average, leverage as much money. Further, a 1994 survey revealed the central role of the Endowment in building a national infrastructure of support for American folk and traditional arts, and in leveraging an increasing annual level of private and local support for traditional American art. Through its programs, the Endowment helps support the arts and cultural activities of the more than 170 different ethnic groups that live in every corner of the United States.

The prospects for the private sector increasing its support for the arts are dim. According to a 1994 survey by the Business Committee for the Arts (BCA), "Although economic predictions [were] more positive for 1994 than 1993, most companies are taking a conservative approach to their philanthropic activities and some companies (42 percent) are shifting resources from the arts to education, health and human services, and environmental initiatives." The average dollar amount given to the arts is projected to decrease to 14 percent in 1994 from 17 percent in 1993 of total philanthropic budgets. As recently as February 26, 1995, executives representing the 12 national foundations that give \$10 million or more annually to fund cultural projects all told The Washington Post that it was highly unlikely that foundations would make up the difference if the National Endowments for the Arts and Humanities were eliminated, and they all echoed the health and social service demands on their budgets that were detailed in the BCA survey of corporations.

Further, BCA finds that most businesses supporting the arts allocate a majority of those resources (87 percent) to arts projects in their headquarters and major operating communities. The elimination of federal arts support would mean that regions not having a strong business presence, such as small and rural communities, would suffer considerably. And arts projects having national or regional impact would have difficulty finding private support.

International cultural exchange would suffer as well. A survey of 5,103 arts funding entities found that only 53 would even consider support for international arts exchange. The partnerships with foreign governments, other U.S. government agencies, foundations in this country and abroad, and state and local arts agencies would dissolve if the Endowment were not involved. Planners of international exchange activities depend heavily on the Endowment for information and technical assistance. No other entity in the United States is set up to provide these services. In America, small communities and organizations would probably find it impossible to engage in international cultural exchange without the assistance of the Endowment.

Additionally, it is the leadership provided by the Endowment that helps sustain the country's artistic and cultural heritage by supporting traditional and contemporary art forms often not funded or underfunded at the state or local level or by the private sector. For instance, only six of the 56 state and jurisdictional arts councils have dedicated programs and staff in literature. Independent literary publishers exist in a specific community, but their audience is national. And, certain art forms, such as design, are not funded by most states (in the case of design, 75 percent of

state agencies have no such funding category). Touring across state lines in art forms such as dance occurs because of the Endowment's leadership, and its involvement further assures that the touring reaches small and rural communities. Because its perspective is national, the Endowment is positioned to identify and serve traditionally underserved (geographically-isolated, rural and inner-city poor, and ethnic) populations as well as senior citizens, disabled people, and people living in institutions. Its leadership in such areas has instilled awareness and responsiveness to these populations at the state and local levels and in the private sector.

The Endowment has worked to extend the reach and resources of artists and arts organizations for all Americans by working with other federal agencies to identify mutual interest and concerns, to ensure that they employ the arts to achieve their goals, and to create partnerships and collaborations. In working with other federal agencies in support of the arts, the Endowment serves as the catalyst, the national identifier of artistic excellence and merit, and the leader in helping arts organizations and regional, state, and local arts agencies obtain access to potential governmental partners.

Question. To what extent has the NEA received feedback from corporate givers that their contributions would not have been made had it not been for the presence of an NEA grant award?

Answer. In a February 26, 1995, Washington Post article, executives representing the 12 national foundations that give \$10 million or more annually to fund cultural projects were interviewed about, among other things, the importance of the Arts and Humanities Endowments in stimulating private sector giving. The consensus was that foundations might end up giving less were the Endowments not in existence. It was noted by these executives that the Endowments "bring the work . . . to other people's notice" and bring "the spur of national attention."

Specific programs within the Endowment have gotten feedback from the private sector that their support would not have been provided without Endowment funding. For example, the Endowment's Literature Program supported the first round of "Tumblewords: Writers Rolling Around the West," a program of reading series and residencies for writers in community venues throughout the Western United States. The initial series covered three states. Because of the project's success, the Lila Wallace-Reader's Digest Fund came in for round two, increasing coverage to three additional states. Another example is the Chamber Music Rural Residencies, which the Endowment has supported for several years to place chamber ensembles in rural communities across the country for extended periods of time. The Helen F. Whitaker Fund heard about the project and decided that it was the type of project the Fund seeks to support. The Fund is not in a position to do the groundwork necessary to start such a project. The fact that the Endowment was involved was critical to the Fund's decision to participate. In FY 1995, the Fund is matching the Endowment's contribution of \$175,000, allowing the residencies to take place in twice as many communities as otherwise possible.

Question. Funding restrictions are being imposed on any number of different domestic discretionary programs in the current budget environment. Many are questioning whether it is appropriate for the federal government to provide support for the arts.

How does the level of federal support for the arts in the United States compare with other leading industrialized countries?

Answer. The United States today spends 64 cents per capita annually to support the National Endowment for the Arts. The total per capita support for the arts in the United States (including both Endowments, IMS, Smithsonian, CPB, National Gallery of Art) is less than \$4. International statistics on arts support vary, depending upon an individual government's structure of federal arts funding, which is not necessarily the same as the United States'. However, in general, statistics compiled by UNESCO and similar entities reveal some figures. In France, annual per capita support for the arts is \$32 and, in the United Kingdom, it is \$24. Switzerland spends \$8 per

capita. In Germany, where the city of Berlin alone provides \$130 million for its two major opera companies, the figure is \$27 per person. In the province of Ontario, Canada, the federal government per capita expenditure is \$107, and in Canada as a whole, it is \$67.

Question. Are the amounts provided by the national governments in other countries required to be matched in a manner similar to NEA grants?

Answer. We are not aware of matching requirements like the Endowment's in other countries. In fact, representatives of other countries recently have come to study the practices of the Endowment to learn more about how public funding can be used to leverage private investment.

INTERNATIONAL PROGRAMS

Question. As part of the justification for the international program (p. 55), the Endowment indicates that many private or corporate arts patrons are unwilling to engage in contributions for international arts exchanges.

If non-federal sources are unwilling to contribute funding for international arts exchanges, why should the NEA?

Answer: I believe that this question may come from a misunderstanding of the survey the Arts Endowment did of arts funders. The agency's experience actually indicates that many non-federal arts funders are willing to contribute to these activities when they become aware of needs and opportunities in their communities. The Arts Endowment's leadership has made international arts activities available in communities of all sizes throughout the United States. The agency's funds are used solely to support U.S. artists and arts organizations and to create public/private and public/public partnerships that increase the resources for international arts exchange.

In FY 1995, the reach of the International Program's small budget of \$805,000 has been extended to \$3.685 million through partnerships with other funders in the U.S. and abroad. In addition, grants made to United States artists and arts organizations with these pooled funds are matched many times over at the local and state levels. Just as the Arts Endowment in the past served as a catalyst for creating a network of support for folk arts and artists, its leadership is now fostering increased giving for international exchange.

The Arts Endowment has had noteworthy success in attracting partners; the International Program has formed partnerships with 36 entities including five foreign government agencies, two federal agencies, seven state arts agencies, fourteen local arts agencies, four foundations, and three arts service organizations. The Arts Endowment took the lead in creating these partnerships; each year the amount leveraged through new or expanded partnerships has grown. The agency's foreign government and private sector partners have stated publicly, however, that the agency must continue to support these activities in order for them to justify their ongoing contributions.

The basis for the Arts Endowment's partnerships with the states and localities is a guaranteed local or state commitment to support nationally-recognized international exchange activities; without national involvement, this critical funding would also disappear around the country. All of the Arts Endowment's partnerships make artistic exchange possible where it would not otherwise exist.

The agency's partnerships with state and local arts agencies through the agency's International Match Program increase resources locally so that artists all around the country have access to needed funds for international projects. For example, the matching support the Metropolitan Arts Commission provided to Portland, Oregon master traditional musician Obo Addy was the crucial funding, in addition to that of the Arts Endowment, that made a two-way exchange project with Ghana possible.

Through the Arts Endowment's jointly-funded partnership with the governments of Canada and Mexico, 60 artists from the three

countries are hosted in communities abroad. Centrum Foundation in Port Townsend, Washington, organized public programs for their guest artist, a Mexican composer, who offered music workshops for Latino children in after-school programs and daycare centers. Students in rural Nebraska schools were introduced to photography by Mexican visual artist Humberto Chavez. Through this tri-national exchange new opportunities for interaction with artists from our neighboring countries are available for communities throughout the United States. Likewise, a partnership with the Japan/U.S. Friendship Commission and Japan's Agency for Cultural Affairs supports binational exchange with Japan.

The agency's ArtsLink partnership, which supports approximately 100 exchange projects yearly with the former Soviet Union and Eastern and Central Europe, allowed the community of Madison, South Dakota, to host an artist and an arts manager from abroad and provided the necessary support for Eric Bass, a puppeteer from Putney, Vermont, to collaborate with a company to produce his puppet play in Lodz, Poland. ArtsLink also served as a catalyst for a model national-state partnership. The Ohio Arts Council and the Kettering Fund of Dayton, Ohio, joined forces with the Arts Endowment and its national foundation partners (the Trust for Mutual Understanding, the Open Society Fund, Inc., and the Starr Foundation) to support exchange throughout Ohio. The recognized stature of the Endowment-generated national review system was the impetus for this family foundation to contribute to this exchange.

The Fund for U.S. Artists at International Festivals and Exhibitions, the Arts Endowment's oldest public/private partnership, which supports approximately 140 projects yearly, is the only ongoing source of funding in the country for American artistry to be represented abroad. Without such support, American popular culture, which perpetuates negative stereotypes about the United States, would be largely unchallenged in defining America's image overseas. Instead, America's premier artists such as the Dance Theatre of Harlem, the Miami City Ballet, the Pacific Northwest Ballet, the Goodman Theater, the Charleston (South Carolina) Symphony Orchestra, the Cleveland Playhouse, and the Los Angeles Philharmonic represent the United States abroad. The Fund imprimatur is vital to their private sector fund-raising.

The Fund also provides the only opportunity for lesser-known artists of great merit to receive international exposure. Through the Fund, the Sealaska Heritage Foundation of Juneau presented Native Alaskan oral literature at a festival in Spain and the Hooper Bay Traditional Dance group of Hooper Bay, Alaska, performed Native American dances in Canada. The Stewed Mulligans, an Appalachian string band and cloggers from West Union, West Virginia, were the sole representatives of the United States at a traditional music festival in Poland and the cowboy poets from Elko, Nevada, represented this country and met other storytellers from around the world in a festival in Australia. Because they received Fund support, the Drinkall-Baker Duo of Orem, Utah, could present the work of American composers to audiences in Venezuela and Savoy Doucet Cajun Band of Eunice, Louisiana, could interpret this uniquely-American music to audiences in Australia.

Question: What evidence can NEA provide that federal funding for international activities translates into domestic benefits for U.S. artists? Is it too soon to determine if there is a pay-off from NEA having an international program?

Answer: In reports received from its direct and partnership grantees, the Arts Endowment receives very positive feedback on the importance of international exchange for the creative growth of American artists. For example, world-renowned choreographer Arthur Mitchell, founder of the Dance Theatre of Harlem reported that after his company's ground-breaking residency in South Africa (supported by the Arts Endowment through the Fund for U.S. Artists at International Festivals and Exhibitions), "the dancers dance differently now." Mr. Mitchell is incorporating movement and other cultural expressions he investigated in South Africa into new choreography for the company.

Artists whose work is seen abroad for the first time through the Arts Endowment's support report that they often receive return invitations. The Hooper Bay, Alaska, dance troupe that received Arts Endowment support for its residency in Canada in 1992 was invited back in 1995. The Stewed Mulligans reported that not only were they invited to return to the same Polish festival next year, but also to give concerts throughout Poland. WNPB, the public television station in Morgantown, West Virginia, is considering making a documentary on the musicians' return trip to Poland.

In the performing arts, often the ability of a dance company or music ensemble to produce a season for their hometown audiences or to tour in the U.S. is dependent on the employment and recognition generated through international touring. In addition, American music and dance are admired around the world because international touring has introduced new audiences abroad to America's unique contributions to these art forms.

Artists who receive Arts Endowment grants report that international experiences and collaborations inspire artistic creations in architecture and design, dance, music, literature, media, theater, and the visual arts. These works are presented to American audiences and enrich the American cultural landscape. For example, multi-media artist Bill Viola, who used his 1980-81 fellowship in Japan to explore technology's capacity to convey the deepest paradoxes of human perception, went on to receive a MacArthur "genius" award in 1989 and in 1995 will have the honor of representing the United States at the centennial of the Venice Biennale. His installations, which include images from around the globe, have been widely exhibited throughout the United States.

The Arts Endowment's support of touring activities through its public/private partnership, the Fund for U.S. Artists at International Festivals and Exhibitions, and through other partnership activities such as the International Projects Initiative, ArtsLink, and U.S./Canada/Mexico Creative Artists' Residencies have helped create new opportunities around the globe that sustain American artists. For example, Teatro Avante of Coral Gables, Florida, reports that Arts Endowment support of its participation in international theater festivals in Japan, France, and Spain, not only provided much-needed funding but attracted new sponsors for Avante.

International activities help the 170 different ethnic groups represented in this country learn more about the roots of their own cultures and those of other societies. For example, the Arts Endowment provided funding for a performance and exhibition series in rural Alaska of traditional artists from Kamchatka with Native Alaskans from the Kenai Peninsula and from the Nulchik, Seldovia, and Nanwalek communities. The project's organizer reported on how significant it was for "fourteen different communities to look at the objects of their ancestors, develop an understanding of the cross-cultural dance form, and to reach the farthest areas of Alaska, where museums do not exist."

International activities can provide positive outlets for underprivileged youth. For example, through an Arts Endowment-funded project organized by the City of Chicago Department of Cultural Affairs and the Guadalupe Center in San Antonio, Texas, four master artists from Mexico taught traditional crafts skills to a racially-diverse group of low-income inner-city youth in Chicago and to Mexican-American teenagers in San Antonio. The skills were taught within an economic development model that helped the participants market the work they produced.

Over time the Arts Endowment will have even more information on the lasting impact of its support in this area beyond the positive reports we receive from our grantees. Evidence of the "pay-off" of the Arts Endowment's involvement in these endeavors in the long-term would include: more diversified funding for international exchange at the national, state and local levels; sustained relationships between U.S. artists and arts organizations with their counterparts abroad; new opportunities to showcase the diversity of American work around the world and to give American audiences exposure to the best cultural expressions from abroad; and the creation of a body of American work based on international influences and collaborations to

be enjoyed by future generations throughout the United States and around the world.

Question: Using the argument that NEA funding is often viewed by corporate givers as a "sign of approval," has NEA witnessed any increase in private contributions for international exchanges since this program was initiated?

Answer: As mentioned above, the Arts Endowment's partnerships have increased private sector giving to international arts exchange. The Arts Endowment recently published World Arts: A Guide to Resources for International Arts Exchange. This guide, which will soon be available on the Internet, should stand as an example of the importance of supporting international exchange and encourage new funders to participate in this activity. Unfortunately, the Arts Endowment has not had the resources to conduct regular surveys of private sector givers to assess the growth over time in their support of international exchange. In the next year, however, the Arts Endowment plans to collaborate with the President's Committee on the Arts and Humanities to provide information to private funders (particularly in local and family foundations) on how to structure support for international arts exchange at the community level. It is the agency's expectation that these activities will increase grass-roots funding for cultural exchange.

MILLENNIUM INITIATIVE

Question. The budget proposes to allocate \$900,000 to millennium projects, which have the stated objective of addressing the role of the arts in how we enter the 21st century. NEA has indicated that these projects should address the following three questions: "(1) Who are we? (2) Where do we come from? and (3) Where are we going?"

How will the projects contemplated under this grant category be different from the regular grant categories?

Answer. They will be different in their scale, their degree of private partnerships, their emphasis on federal/local partnerships and in their unequivocal direction toward the American public. They are projects that would not be undertaken in the normal course of the ongoing program categories.

For example: The NEA is engaged in planning a great national photographic survey of the United States as we approach the year 2000. This will be conducted on several levels. First will come surveys of each of the states and territories in partnership with the country's best photographers, state arts agencies, historical societies, and local governments. These state exhibitions will come to Washington. The national survey will result in a great touring exhibition in the order of "The Family of Man." Eventually all products will be deposited in the National Archives to tell future generations who we were in the year 2000.

Without the stimulus of the Endowment's leadership, a project of this scale could not be accomplished. The on-going photography category in the visual arts program could not address such a major project.

Question. At a time when so many persons are questioning whether it is appropriate for the federal government to play a role in the arts, how will this initiative help NEA define its mission?

Answer. This initiative helps to emphasize the NEA's mission of: serving the public and enhancing the public good through the arts. The target of the Millennium Projects initiative is the American public: How can it best be served? How can the extraordinary achievements of the American arts in the 20th century be brought home to the people? How can the arts prepare us as a culture to understand each other, to define ourselves, to face the future? By helping to answer these questions, the NEA strengthens its basic public mission of bringing the most excellent art to the most Americans.

NATIONAL COUNCIL ON THE ARTS

Question. The National Council on the Arts is the presidentially appointed advisory group to the NEA chairman. The purpose of this group, whose members include arts professionals, art patrons, citizens, and other informed persons, is to advise the NEA chairman, and review the recommendations of the advisory panels.

What steps have you taken to involve the National Council more actively in the decisions you make as chairman of the NEA?

Answer. I have formed or reactivated several Committees of the National Council: Operations, Arts in Education, Planning, and Design. These committees work between the quarterly Council meetings and are actively advising me on issues confronting the Endowment. In addition, Council members regularly attend "working group" sessions on the day prior to the open Council meetings and are able to inform themselves about the various programs and applications during these sessions. I have changed the Council voting procedure to facilitate individualized voting on panel recommendations and avoid any conflicts of interest.

The Operations Committee is devising additional ways in which the Council can better fulfill its statutory responsibilities -- such as attending panel meetings as observers and devoting additional time to application review. Finally, I am in regular communications with Council members and actively seek their advice on a variety of issues.

Question. Are there further ways in which you believe the actions of the Council could strengthen the NEA grant review process?

Answer. The Council Operations Committee is currently considering ways to strengthen the Council's role in the grant review process. It is examining ways to maximize Council knowledge, involvement and accountability. We plan to implement some changes for the May, 1995 Council meeting and the committee will propose additional changes as the year progresses.

I believe that the current statute provides a very workable framework for Council review of applications and that additional changes can be implemented without additional statutory authority.

MOST EFFECTIVE USE OF NEA DOLLARS

Question. Madam Chairman, the NEA has proposed a \$5 million funding increase in FY 1996. As you know, however, the Congress, in general, is in a "budget cutting" mode.

As dollars become more and more constrained, what are your views on the most effective way to stretch limited NEA funds -- should the number and variety of grants be continued, but at reduced levels; or should the number of grants be reduced in order to maintain grant funding levels at a meaningful level?

Answer. This depends partly on the extent of the constraints. To date, the Endowment has totally eliminated 27 funding categories. We have also, for remaining categories, both reduced the number of grants and reduced their funding levels, while striving to maintain grants at meaningful levels. Mindful of the leveraging effect of our grants, which makes even small grants "meaningful," the Arts Endowment has sought to assist as many worthy applicants as possible, while sustaining its Challenge grant program at a relatively high funding level (requiring higher ratios of matching funds). But the number of grants continues to slide downward; since FY 1990, for example, that total has dropped from 4,475 to an estimated, pre-rescission, total of 3,665 in FY 1995.



NATIONAL ENDOWMENT FOR THE HUMANITIES

STATEMENT OF SHELDON HACKNEY, CHAIRMAN

BUDGET REQUEST

Senator GORTON. We now turn to the fiscal year 1996 budget request for the National Endowment for the Humanities. Testifying this morning on behalf of the Endowment is Dr. Sheldon Hackney, chairman of the NEH.

The fiscal year 1996 budget request for NEH is \$182 million, an increase of \$4.956 million over the fiscal year 1995 enacted level of \$177.044 million. Of the requested increase, \$4 million is proposed for a new technology and the humanities initiative. A proposed increase in administrative costs totals \$1.419 million. This is partially offset by programmatic decreases in the education, preservation, public, research, and State programs divisions of \$463,000.

Dr. Hackney, welcome before the subcommittee. It looks like you have lost a significant portion of your audience, but we are nonetheless here with great interest to hear your presentation.

Since I noted you were here for most of the earlier presentation, I will not repeat what I said then. But I and members of the subcommittee will be interested in your answers to many of the questions we propounded to Ms. Alexander. Your written testimony will be included in the record in full. You can certainly summarize it in any way you would like now, but please reflect also on the kinds of questions you know we are going to ask.

SUMMARY STATEMENT OF SHELDON HACKNEY

Dr. HACKNEY. Thank you very much, Mr. Chairman. I am delighted to be here, and thank you for the opportunity to testify. I will try to talk my way through some of the points that I think are very important. I must say the situation is the usual one: The NEH is frequently confused with the NEA. In fact, we are frequently mistaken for the humane society or people think that we are involved somehow in humanitarianism. So I am a little sensitive on that subject. But I think, in fact, the NEH is the blue-collar work force of the cultural world. And I am actually rather proud of that.

It is a very quiet agency, but I take some comfort in the Biblical admonition—it was also a promise, I think: “By their fruits, ye shall know them.” Because I think if you look at our fruits, this is a remarkable agency that does great things for the American people.

Our fruits, for instance, are the “Civil War” and the baseball television series that Ken Burns did, or the King Tut exhibit, or the Thomas Jefferson papers, or that magic word, “Chautauqua,” or the thousands of other programs that the NEH has sponsored and

helped to fund that have enriched the lives of hundreds of millions of Americans.

Our purpose really at the NEH is quite simple: We help to preserve the cultural heritage of this country and to strengthen our understanding of it. I think without that we do not know who we are as a people. We also promote citizenship, a kind of citizenship that is grounded in an appreciation for the fundamental principles of this country. Without that, we would not know where we should be going.

We ensure that the humanities belong to all Americans—not just to those who can afford them, but to those who can have access to them no matter what they make or where they live. Without that, our democracy cannot endure.

In the 1965 legislation that established the NEH and the NEA, Congress recognized the Federal Government's interest in "promoting progress in the humanities," as the act says; and it expressed that commitment in a very simple—but I think, powerful—observation: "Democracy demands wisdom and vision in its citizens." It is this purpose that the NEH has dedicated itself to over these 30 years.

In the short time that I have been chairman, I have focused on doing three major things. Let me say a word about each of those: First, I have done everything that I can think of doing in this short time to streamline our operations. There is certainly more to do there, but I wanted to make sure that we were stretching the tax dollars that we are given just as far as we can to provide very good service to the American community, and to do that efficiently.

I have done that in several ways: First, I have removed an entire level of bureaucracy by eliminating the two assistant chairman positions; I have also closed the Fellowships and Seminars Division, which allowed me to reassign the programs in that Division in a more logical fashion and to group our programs more logically in a fewer number of divisions, thus saving a senior-level position and all of its attendant expenses. I have also launched an Endowment-wide effort to serve our customers better.

Second, and this, I think, is important—I have worked very hard to improve the relationship between the NEH and the State humanities councils. Before I arrived, that relationship was distant and somewhat tense; and this goes back all the way through the history of the NEH. It is not a partisan matter. It is just a fact of life there.

The State humanities councils are now about 20 years old, and I think it is quite important that the NEH see them as our affiliates in the State, our partners in bringing the humanities to as many Americans as possible.

In pursuit of that goal, I have transformed the Division of State Programs into a Federal/State partnership. This means, basically, that the head of that office, Carole Watson, is my chief advisor and sits in on all our meetings. So the State programs are part of everything that we do.

Most significantly, I have opened up all of the divisions of the Endowment for competition from applications from State councils. This was not done before, on the theory that State councils got an

allocation through a formula—a set-aside, if you will—and it was thought to be not fair to let them have two bites at the apple.

But it seemed to me that we ought to be funding the very best programs. And so, there was no reason in the abstract not to have the councils compete for awards in all the Endowment's programs; and they have begun to do that. We just made, 2 weeks ago, four awards in our competitive programs to the State councils.

NATIONAL CONVERSATION

Finally, the third thing that I have been spending a lot of time on is what we are calling the National Conversation on American Pluralism and Identity.

It seems to me, Mr. Chairman, that we have spent much too much time in the last 20 years talking about our differences, about what separates us, and about how marvelously diverse this country is—and it is, you know, enrichingly diverse. But we need to spend more attention on those things that we share as Americans, those common commitments, if you will, the things that hold us together and bring us together as a people.

So, we have launched a program that intends to bring together in face-to-face meetings and also through electronic technology—radio, television, and with the bulletin board on the internet—as many Americans as we can, unprecedented numbers of Americans, to talk to and listen to each other about what it means to be an American and what values we share as we go into the 21st century.

This program has been 1½ years almost, in the planning. It is now launched. A lot of its activities are already going on through the State humanities councils. We also just awarded the first set of grants 2 weeks ago; the program has met with extraordinary enthusiasm.

In the planning stage, I did five pilot conversations in various parts of the country, out of the way places mostly. People from diverse backgrounds who had not known each other before the evening began came together, and talked with me as the moderator about what it meant to them to be an American, what things they worried about in this country, what things they thought Americans ought to be commonly committed to, in what areas Americans could differ, but on what things did we really need to agree.

At the end of all those five conversations, the first question asked was: When can we meet and continue this conversation?

I have also talked two or three dozen times to assemblages of professional groups, academic gatherings and other sorts of general audiences about the conversation, and about why I think it is so important. And there, also, it is enthusiastically received.

We have a 1-800 number that is available: 1-800-NEH-1121. You can call and get information about the conversation. We have had that number up and running now for 4 or 5 months now, and we have so far received over 3,000 inquiries from people all over the country—all 50 States, small communities and large communities, rural areas and urban areas—asking how they can get involved.

This is a conversation that is meant to bring together people who do not necessarily agree with each other, to bring together people

from very different backgrounds, to explore their commonality as Americans.

I think, in fact, that is one of the most important things that we can be doing as a country now, and it is intimately connected obviously to citizenship.

We do a lot of things in the Endowment. Over the 30 years of our existence, operating with a very small budget—one ten-thousandth of the Federal budget now—we have given something like 51,000 grants to scholars, to filmmakers, to preservationists, to teachers, to State humanities councils, libraries, and museums. All of these grants are meant to advance the quality of the humanities and to make them much more available in the United States.

PRESIDENTIAL PAPERS AND OUR CULTURAL HERITAGE

Let me say a word about one sort of activity that we are involved in that I think is very important. It will quickly become apparent that this is totally unrehearsed.

We have supported the publication of the papers of the Founding Fathers and a lot of other leading Americans: The Adamses, Thomas Jefferson, James Madison, Jackson, Grant, Eisenhower, and others.

At the University of Virginia scholars have compiled 28 volumes of George Washington's writings. This project is not completed yet. It is a long-term project, which is why the Federal role is so important. They are now in the process of putting those things on a CD-ROM as well.

You may have in front of you a facsimile copy of a letter from George Washington. That is the sort of thing that a scholar would work with if he or she could travel to the National Archives where it is held. It is difficult to read the handwriting and you have to sort your way through it. But in a volume such as the one I have here, you will find it printed and it will not only be transcribed so that it can be easily read, of course, but it is also an authoritative transcription that will come with notes explaining the names of those you might read within it. This is a letter to Martha Washington.

That letter says:

As I am within a few moments of leaving this city, I could not think of departing from it without dropping you a line especially as I do not know whether it may be in my power to write again until I get to camp at Boston. I go, fully trusting in that Providence which has been more bountiful to me than I deserve, and in full confidence of a happy meeting with you sometime in the Fall.

I have not time to add more, as I am surrounded with company to take leave of me. I retain an unalterable affection for you which neither time or distance can change. My best love to Jack and Nellie, and regard for the rest of the family, concludes me with the utmost truth and sincerity, your entire George Washington.

I wish we wrote letters like that these days. It would also make it easier for scholars if we wrote letters.

I thought you might like to see what a letter, an autograph from George Washington would look like. The Archives has been gracious enough to bring one over, and you might glance at it. This is obviously a precious document.

Senator GORTON. A marvelous handwriting.

Dr. HACKNEY. It is, indeed. The important thing about this, obviously, is that it has to be preserved. It is quite expensive to pre-

serve that, and we certainly want to preserve that as part of our cultural heritage. That is one of the biggest and most important things that we do at the Endowment—to help preserve our cultural heritage.

This is physical preservation, but I am also talking about, in some cases, actually publishing the writings or putting them on a CD-ROM. In the case of brittle books and newspapers, we microfilm those, so that they will be available in the future. Those things are deteriorating, and if we do not preserve them they will be gone. If we have them on microfilm, they have to be renewed periodically; and we are also exploring how we can go back and forth between microfilm and digital technology.

We obviously fund a lot of prize-winning books that individual authors and scholars write. One of the things that I am most proud of is the summer seminars for schoolteachers and college teachers that we fund every summer.

We provide opportunities for 2,000 high school teachers and about 1,000 college teachers to attend seminars with a master teacher, a scholar in a particular subject area. Most of them are about content; some are about pedagogy. Those teachers are frequently transformed in their lives. Inevitably, they go back to the classroom with more knowledge to teach, and a renewed enthusiasm for teaching. That, I think, is a marvelous contribution to a Nation whose educational level desperately needs to be increased.

Preservation is also a big thrust of ours. I mention all these things because, in short, I think we do very good things, and I think we do them with a slender budget. But the one thing that I would very much like to do is to put to rest the uninformed allegation that we are an elite organization, that we serve only an elite audience. Nothing could be further from the truth, and it really irritates me to hear people say that.

REACH OF NEH GRANTS

Every year, 11 million people attend the programs that are sponsored by State humanities councils alone. These are reading and discussion programs, exhibition and discussion programs, seminars, lectures, and so forth. That is marvelous.

In addition, several million more people, scores of millions, attend programs that are sponsored by the NEH directly. The audience for our radio and television programs every year is in excess of 240 million people. We are reaching, really, quite a broad cross-section of the American public.

I can also talk from experience as well as statistics, though the statistics may be more reliable than my experience. I attended a Chautauqua session in McAlester, OK, in the southeastern corner of that State, where there were scholar/actors portraying W.E.B. DuBois, Jack London, Mark Twain, Stephen Crane, and Kate Chopin.

They each discussed their characters' observations about the world in character, based on their scholarship of that character. They were also in costume. They answered questions from the audience, in character also, about current events or about the historical times that they represented. Then they stepped out of char-

acter, and talked about how they had come to know that character; what it took them to learn about those characters.

I found that to be a fascinating experience. I went there a little skeptical about the benefits of that sort of performance, and as I looked around the audience in that Chautauqua tent, with 800 people sitting on folding chairs, I thought to myself that if there is a member of the dreaded cultural elite actually there—other than me, perhaps—he or she was not visible to the naked eye.

The Endowment reaches grassroots audiences in a marvelous way to include them in the humanities. What I have seen in my travels around the country is that the American people really are thirsty for experiences in the humanities; they really do want to know more about their country's history and culture.

I was shocked and pleased to see a result of one poll that showed that 57 percent of the American people had visited a historic site in the previous 12 months. That is a very high percentage. When we showed the "Civil War" television series, the director of the Antietam Battlefield said his visitorship doubled in that year; and the Richmond cultural agencies reported that their attendance rose from 7,000 to 45,000.

THE PRIVATE SECTOR AND THE HUMANITIES

Let me say just very briefly that I think that it would be very difficult for the private sector, in almost any form, to pick up the slack if we were not in existence. It would be very difficult for them to fill in for the sorts of things that we do for various reasons—and I would be glad to go into that.

I recognize that this is a very tough budgetary year and a special time, perhaps, in American history, and I do not think that the NEH is exempt from scrutiny in that regard. I do think that we are worth investing in. I think any careful CEO of an organization would look throughout its organization if he had to cut back, if his business was out of whack, and would try to figure out what things need the continued investment, and what things could afford to be cut back for a while or, perhaps, even permanently.

PREPARED STATEMENT

I believe we fit in that category of things that ought to be invested in, because we are about citizenship, about elevating the notion that our citizens have of America and making them serve it better.

So we are ready to do our part, clearly, and I would like to work with the committee in any way possible to do that. But I do believe that we do very good things for a very cheap price.

[The statement follows:]

STATEMENT OF SHELDON HACKNEY

Mr. Chairman, and members of the Subcommittee, I thank you for the opportunity to testify this morning on our 1996 budget request for the National Endowment for the Humanities.

I recognize that many people confuse the NEH with the NEA, or think that the NEH is part of the Humane Society, or that we are somehow involved in humanitarianism.

We are a quiet agency, one might even say unglamorous, but we take comfort in the Biblical promise, "By their fruits, ye shall know them." Americans who might not be able to tell you what the NEH does will instantly recognize our fruits: the Civil War series, for instance, or "Baseball", or the Tutankhamen exhibit, or the Thomas Jefferson Papers, or "Chautauqua", or the tens of thousands of other projects we have funded that have enriched the lives of hundreds of millions of Americans.

Our purpose is as important as it is simple. We help to preserve our cultural heritage and strengthen our understanding of it -- without that we do not know who we are. We promote citizenship grounded in an appreciation of our fundamental principles -- without that we would not know where we should be going. We ensure that the humanities belong to all Americans regardless of how much they make or where they live -- without that our democracy would not endure.

In 1965, in the legislation that established the NEH, Congress recognized the government's interest in "promoting progress in the humanities" and expressed it in a single, powerful observation: "Democracy demands wisdom and vision in its citizens." The Endowment has dedicated itself over the last thirty years to satisfying that demand.

In the short time that I have been Chairman, I have focused on three major tasks.

First, I have looked for ways to streamline our operations so that we can offer improved service with fewer dollars. I have restructured the Endowment by eliminating the two Assistant Chairman positions, thus removing an entire layer of bureaucracy. I have closed the Division of Seminars and Fellowships, which allowed me to assign its programs in more logical groupings to other divisions, reducing the Endowment to four divisions and saving a senior-level position along with its attendant expenses. I have also initiated an NEH-wide effort to serve our customers better.

Next, I have worked very hard to improve the relationship between NEH and the state humanities councils. Prior to my arrival, that relationship was distant and tense. It is my belief that the State Humanities Councils are an essential part of the work we do in the humanities and that we need to work more closely together. In pursuit of that goal, I have transformed the Division of State Programs into the Federal-State Partnership Office that is part of the Office of the Chairman so that the states are part of everything we do and are represented in every meeting I have.

Most significantly, I have opened up every division of the NEH to applications from the State Humanities Councils. Previously, the states received their funds from the state setaside and from an allocation of one-third of our Treasury dollars. They were not permitted to compete for awards in other divisions on the grounds that it was unfair for them to get earmarked money and also be free to apply in the competitive programs -- the "two bites at the apple" theory. Now states will be allowed to compete, and federal dollars will be awarded to the

best proposals in the humanities community. In fact, we recently funded competitive grants to four states at the February Council meeting.

Finally, I have been designing and implementing the "National Conversation on American Pluralism and Identity." This initiative is based on my belief that we in this country have been paying too much attention to our differences and not enough attention to the things that hold us together. Americans feel the bonds of community weakening and society fragmenting in worrisome ways. We must find common ground if we are to recapture a confident sense of shared values that will let us then deal with divisive public policy issues with a common purpose in mind. The National Conversation will use the humanities - literature, history, philosophy, and the like - to bring people of differing views and backgrounds together to explore what it means to be an American as we enter the twenty-first century.

Since I first announced that we were launching a National Conversation, we have received over 3,200 requests for materials that will help groups and communities conduct their own conversations. We have had requests from all fifty states - from Kiwanas Clubs to high schools and colleges, from libraries and newspapers to housewives and people on mountaintops. We have held successful pilot conversations in Lowell, Massachusetts, Oklahoma City, Houston, Detroit, and Garden City, Kansas, and I have discussed the project with several dozen general, professional and academic audiences. At the end of every one of the five pilot conversations, the first question asked was "When can we meet again?" The project has also been enthusiastically received by the other groups that discussed it with me. I am pleased to report that our resource kits are now available. In fact, I recently sent a kit to every member of Congress, and we

hope you will become interested enough to sponsor conversations in your own state. Senator Simpson appeared with me in his hometown, Cody, Wyoming, where I talked about our society's need for the conversation, and I believe he is very supportive of the idea.

Since joining the Endowment, I have been consistently impressed with the high standards upheld by NEH, by the excellence of our programs, and the quality and dedication of our staff. During the thirty years of NEH's existence, operating on one-ten-thousandth of the federal budget, we have awarded more than 51,000 grants to scholars, filmmakers, preservationists, educators, State Humanities Councils, libraries, teacher training institutes, and museums to advance the quality and the reach of the humanities.

Through our grants to scholars, we have supported the compilation and publication of the diaries, journals, letters and other writings of many of our nation's presidents, including the Adamases, Jefferson, Madison, Jackson, Grant, Eisenhower, and others. At the University of Virginia, scholars have compiled 28 volumes of George Washington's writings and are in the process of creating a CD-ROM edition.

U.S. presidents have also been the subject of film biographies supported by NEH, including the "Adams Chronicles", "FDR", "Eisenhower", and "LBJ". I have brought with me a copy of "FDR" for the committee's use. It is a wonderful film that I think you will enjoy immensely, although I fear that you may bristle at the discussion of FDR's sending ships to England as the ink was still drying on the Congressional authorization.

We launched the Library of America series, which has now published authoritative editions of the collected writings of

more than thirty major American authors, including Benjamin Franklin, Abraham Lincoln, Harriet Beecher Stowe, Ralph Waldo Emerson, Walt Whitman, W.E.B. DuBois, Willa Cather, William Faulkner, and Richard Wright. Newsweek called this the most important book publishing project in the nation's history. It is now virtually self-sustaining, but it would never have started without the help of the NEH.

Students of the Classics can now access the entire body of ancient Greek texts through the Thesaurus Linguae Graecae, available on a single compact disc. This was the result of an NEH grant to scholars at the University of California. The Endowment has also supported an electronic textbase of the works of Dante.

Grants from our Research program have resulted in a number of prize-winning books, including Michael Kammen's A Machine That Would Go of Itself: The Constitution in American Culture, James McPherson's Battle Cry of Freedom, and Laurel Ulrich's A Midwife's Tale. Now, with seed money from the Public Programs Division of the Endowment, A Midwife's Tale is being made into a film, and Professor Ulrich's brilliant work will reach even more Americans.

We helped to launch National History Day with an initial challenge grant to evaluate a model program in Ohio. Each year, National History Day engages four hundred thousand students in grades six through twelve in the preparation of papers and projects for competition at the local, state, and national level.

We are improving the quality of education in America by providing opportunities for teachers to renew and strengthen their knowledge in their fields. Each year, NEH-sponsored teacher institutes and seminars provide the opportunity for

intensive study to 2,000 teachers at the elementary and secondary levels and 1,000 college teachers from all over the country. Over the years, more than 46,000 teachers have deepened their knowledge of the humanities through these courses. More than 500,000 students each year benefit from being taught by a teacher who has participated in an NEH seminar the previous summer. No other funder, public or private, provides national support for substantive study opportunities for teachers across all disciplines in the humanities.

In addition, more than 1.3 million teachers have received training through the National Writing Project, which began in 1973 as a small NEH-supported effort in the San Francisco Bay Area to bring together elementary and secondary students with college and university faculty to share knowledge of, and gain hands-on practice with, successful approaches to the teaching of writing.

Another notable NEH project in education is the Yale-New Haven University Teachers Institute, designed to strengthen teaching and learning in the New Haven schools by bringing community school teachers together with Yale faculty to collaborate on school problems, to share knowledge of subject matter and teaching in their fields, and to design curriculum. This project is held up as a national model, and we are looking for ways to replicate it in other places.

One million Americans use cassettes from the NEH-sponsored Voices and Visions television series on poets. As a telecourse, it reaches 200 colleges, 2,000 high schools, and 500 public libraries.

Through the United States Newspaper Program, the NEH is helping to locate, catalog, and preserve by microfilming a vital

part of our national history that would otherwise be lost to deterioration. By the time current projects end, this program will have microfilmed 54 million pages of disintegrating newsprint. NEH support is also saving three million brittle books by funding their microfilming over a twenty-year period. Microfilming these newspapers and books will make them available to Americans all across the country for a long time to come.

I have described just a few of the many, many projects we support, but I wanted particularly to refute the uninformed allegation that we only serve an elite audience. Nothing could be further from the truth! Each year, the State Humanities Councils reach 11 million people through reading and discussion programs, symposia, and lectures. Several million more people visit NEH-sponsored exhibitions in museums, libraries, and other cultural institutions. More than 240 million people watch or listen to radio and television programs made possible through NEH grants. We are touching the lives of a huge cross-section of the American people.

When I talk about how the NEH democratizes the humanities, I am not speaking only from statistics. I have thus far visited 30 states to see how our efforts are reaching communities large and small. In McAlester, Oklahoma, for example, I participated in a Chautauqua where scholars played the roles of W.E.B. DuBois, Jack London, Mark Twain, Stephen Crane, and Kate Chopin and discussed crucial historical issues that resonate to the present day. If there were any other members of the dreaded cultural elite there, they were not visible to the naked eye. Chautauqua brings American history to life for grass-roots audiences all across the Great Plains and elsewhere.

What I have seen has convinced me that the American people are thirsty for knowledge about their past -- that they want something more intellectually nourishing than "Beavis and

Butthead" or the movie "Dumb and Dumber" or other products offered by the market-driven mass-media. They are eager to learn more about their heritage, their culture, their past. I was surprised and pleased to learn that 57% of the American people visited a historic site last year. We support programs at such historic sites. After "The Civil War" was televised, the Antietam National Battlefield reported a doubling of visitors. Richmond reported that inquiries about Civil War attractions jumped from 7,000 to 45,000.

This, Mr. Chairman and members of the committee, is why the federal role is so critical. The private sector and foundations will not and can not shoulder the burden for a diminished NEH.

NEH is the single largest source of support for the humanities nationwide. Based on a study we did 10 years ago, among the private foundations and corporate giving programs, only about 2% of total contributions went to the humanities. Although this study is ten years old, I am sure that this number is even smaller today due to changes in the tax code and the increasing competition for philanthropic dollars. In the words of William Bowen, Chairman of the Andrew W. Mellon Foundation, "It is no exaggeration to say that the decisions made concerning the budget for the NEH . . . have an absolutely decisive impact on the health and character of the humanities in America."

The NEH is the catalyst for private support for the humanities. When the NEH gives a grant, it also certifies the high quality of the project. With this hallmark of excellence--this sign that the project has passed through the Endowment's rigorous merit review process--it becomes much easier to attract additional funding. The NEH, in other words, provides the venture capital for the humanities, which then stimulates private funding. The federal dollar doesn't drive out private money, it

brings it in. The federal dollar is the leveraging factor; if it disappeared, the incentives for private funding that come from NEH validation would also disappear. Last year, NEH grants leveraged more than \$200 million in non-federal dollars in cost sharing, matching and challenge grants. Since the Endowment's inception, NEH matching awards have stimulated almost \$1.4 billion in third-party support for the humanities.

It was NEH that took a chance on Ken Burns, a little-known filmmaker who wanted to produce films on the Brooklyn Bridge and Huey Long. And it was NEH that took a chance on Ken Burns when he wanted to produce a series on the Civil War using still photographs and actors' voices to engage the audience. I doubt if we would have that film today if NEH did not exist. But if you watch the credits at the end of "The Civil War" and "Baseball," you'll see how our venture capital has helped to attract other investors.

We serve to support, if you will, the whole "food chain" of ideas in the humanities, starting with basic research and leading through preservation and education to public programming. Each activity is dependent on the others. For example, Ken Burns would not have been able to make the Civil War if the photographs he used had not been preserved as a result of an NEH grant. Without NEH, this food chain would be broken. Private philanthropy would not be able to replace the missing NEH dollars, and much of the unglamorous but essential work in the humanities would not get done, depriving future generations of a full appreciation of their cultural heritage.

Now, I must say a word about the history standards because I know that they are probably on your mind. I am not here to support or to denounce the history standards. The Goals 2000 legislation makes it very clear that the federal government has

no business in mandating what students learn. That is up to the states and to parents and teachers at the local level. I agree that this is wise policy. The Department of Education Organization Act also specifically prohibits the Department from determining curriculum content. I agree that this should stand as the policy for the National Endowment for the Humanities also.

It is my firm belief that as Chairman of a federal agency, I should not be involved in any way in directing what should or should not be in a curriculum document. This would be federal intrusion into a state and local function. I believe that such an effort on my part would set a dangerous precedent for future National Endowment heads, paving the way for them to attempt to become involved in curriculum decisions.

I have, however, heard the voices of the critics of the standards, and I have listened carefully to the Senate debate. I therefore encouraged the history standards project director, Gary Nash, to meet with his critics and to be as responsive as possible to the arguments and objections that have been voiced.

Most of the controversy surrounding the history standards involves the suggested teaching examples, not the standards themselves. To be precise, thirty of 2,600 teaching examples have been criticized. Those became the focus of the Senate debate.

I want you to know that Dr. Nash and his colleagues met with their critics on January 12th. As an act of good faith, he has agreed to delete all of the 2,600 teaching examples and republish the standards without them.

In addition to combing the document to remove bias, which I understand is now underway, he has expressed his willingness to have a broad-based panel of noted scholars and teachers

(including critics) make recommendations for changes. This is a very important undertaking. We cannot lose sight of the fact that our ultimate goal in this whole process is to help our children - to improve their mastery of history and their understanding of the world.

I recognize that this is a tough budget year. I know that you face many tough choices, and I want you to know that I am eager to work with you. We are a very small program - only one fifteenth the size of the NSF, which does for science and technology what we do for the humanities - yet our impact is great. We are able to provide thousands of opportunities for Americans to be engaged by the humanities each year for only 69 cents per American.

I am very pleased that the Administration is requesting an appropriation of \$182 million for the coming fiscal year, an amount slightly above our current year's funding. This budget attests to the President's commitment to the important work being done by the Endowment and his recognition that, even during this time of severe fiscal constraints, significant support for the humanities is a sound investment for the federal government. The budget justification we submitted to Congress last month describes in detail our plans for fiscal year 1996.

My hope for the future of NEH is one of increasing opportunities in the humanities for all Americans. One increasingly important tool at our disposal is the use of electronic digital technology. We have supported extraordinary projects using the kind of digital technology that will carry information to more and more Americans in coming years. NEH grants are helping to create electronic editions of materials significant to the study of American history, literature, and politics, such as the multivolume American National Biography.

You may have read an editorial in the Washington Post about an extraordinary technological breakthrough that brought the newly discovered cave paintings in France to Internet users worldwide. What they have done in France, I believe, is something that the NEH can help others do as well. We can play a pivotal role in bringing more humanities materials - texts, images and sound - to the Internet, so that people will have access to the power of ideas.

This is the essence of what we would do with the President's proposed increase. I will also be looking for ways the NEH can increase the reach of our best projects by using a few more dollars to make them available to more people in the country - to rural areas and to areas in poverty. We can and should increase the number of travelling exhibits. We should provide videos of our films to schools, especially those that teach at-risk youth. We should find a way to send the Library of America books to libraries nationwide, including school libraries.

These new initiatives will, of course, require funding. But I will be working hard to find a way for us to implement as many of them as possible.

The National Endowment for the Humanities is dedicated to nurturing the wisdom of the nation's citizens. No American should be left out of the humanities. That we reach so many with so few federal dollars is a tribute to the ingenuity of our grantees and to the eagerness of the American people to participate in the humanities.

We are a country of humanists; our great leaders throughout the history of the Republic have been grounded in the humanities. Thomas Jefferson studied the thoughts and writings of philosophers from Plato to Rousseau to create in the Declaration

of Independence the guiding principles of a new, democratic nation. Abraham Lincoln struggled with ethical, philosophical, and historical precedents in issuing the Emancipation Proclamation. Martin Luther King, Jr. was guided by his study of political and religious principles to propel America past racial and economic barriers towards a new concept of equality.

None of America's great leaders would have prevailed without a grounding in the humanities, which are integral to our conception of a democratic nation dedicated to liberty and equality. That grounding, however, must also exist in the citizenry. Democracy, citizenship, and the humanities are intimately and inextricably connected. For us to make vital decisions about our government and society, we must be able to analyze, interpret, criticize, discuss, argue, compare, and judge. Only through an awareness of our cultural heritage can we see ourselves as full members of a community and a nation.

Mr. Chairman, I thank you again for the opportunity to speak before you this morning, and I look forward to working with you and the rest of the Committee.

HISTORY STANDARDS

Senator GORTON. Dr. Hackney, I know I speak for both of the Senators who are here present, in telling you how much we appreciate both the facsimile of the George Washington letter and the view of the original that you have given us. I think I can also say that the two Senators here, together with many of their generation, have a pretty good idea about what George Washington was doing in 1775 and again in 1783.

If, however, the history standards which the National Endowment for the Humanities had funded a few years ago were put into effect, the next generation of Americans would hardly know who George Washington was. I wonder if you can tell me, recognizing that that grant took place long before you took this chairmanship, whether you have any continuing relationship with those standards? Does the National Endowment for the Humanities plan to do anything about those that were produced? Is it considering any further grants in the direction of creating more appropriate history standards? Or does it feel that this was a bad experience, and it just wants to run away from it?

Dr. HACKNEY. I am not here to either endorse nor condemn those standards that were begun under my predecessor, I think for good and honorable reasons, as part of the school reform movement that was going on then—a nonpartisan effort, I might say.

I do not think it is appropriate for me to try to determine the content of school curricula or standards. Those are decisions that ought to be made at the State and local level, and I think it would really be very wrong for me to try to determine that.

On the other hand, I have also been following the debate with great interest. I followed the debate that you led on the floor of the Senate, and I have heard those criticisms. Even though I think it is not appropriate for me to try to determine the outcome or the contents, I have encouraged the directors of the UCLA History Center that was doing the standards to come together with their critics, and to try to accommodate those critics.

I am pleased to report that they did—Gary Nash, the project's director, did meet with his critics here in Washington on January 12, and talked about how the standards might be changed; what was wrong with them, in the critics' view, and how they might be altered. I believe those efforts are going forward. He has sent a letter to each Member of Congress, listing certain things that he intends to do and has guaranteed to do.

He will issue the standards without the teaching examples. There have been relatively few criticisms of the standards themselves. There are 31 standards and 92 substandards and something like 2,600 examples of what teachers might do to get their students to achieve the learning level that is desired in particular areas.

Dr. Nash has said that he will reissue the document without those teaching examples, and will comb the document to find examples of bias and to get rid of those. Also, he is quite willing to have a panel of historians and teachers come together again and look at them, and suggest alterations. That, I think, is underway at the moment. I have urged him to do that, and I will continue to do that informally.

I think we really need to keep in mind, in this discussion, that the standards were never meant to be a prescription by the Federal Government. They were voluntary standards that were there for discussion by the public, and either adoption or not adoption at the local level. There was a review process that was provided for in the legislation.

The discussion has been quite healthy. It is also interesting to realize that other standards projects have gone forward with great success, I would say, with much less controversy. Maybe it is in the nature of history that people feel so strongly about it, that it has elicited this sort of controversy. But I think the discussion has been very good.

When the alterations are complete, we will know whether or not it has been successful.

Senator GORTON. Yes; I doubt that standards on physics or mathematics would raise the same kind of questions. My own view is that the UCLA work is not recoverable, but that at this point—it is a personal point of view—I think that Professor Nash has disqualified himself from a part in any such venture.

But my question to you—I think it is perfectly appropriate for you not to express views on that subject—my question to you was whether or not there was any continuing financial investment on the part of the National Endowment for the Humanities for this attempt to set history standards, or for any potential future attempt to set them. That is all I wanted to know, really.

Dr. HACKNEY. There is not, at the moment. They are bringing that grant to a conclusion. Their final report should be to us sometime this spring. They do, I believe, have an application pending in one of our programs that will go to the May meeting of the National Council on the Humanities for advice. It has gone through a merit review panel, and it will be presented to the Council in May.

RESCISSION PROPOSALS

Senator GORTON. I would be very careful with that application. I give you that advice. Now, I would like you to answer similar questions to those that I asked of Ms. Alexander.

First, let us assume that the Endowment was subjected to the rescission proposals in the House, with only a division between administrative costs and grant costs. If you had the freedom to deal with those rescissions, what would get cut out?

Dr. HACKNEY. On the administrative side, it would undoubtedly require us to leave the positions that are now unfilled in the Endowment, unfilled for a while; and perhaps we would have to resort to furloughs. Most of our administrative expense is in people.

We would probably cut back on travel and perhaps even try to reshape the remaining review panels for our grant programs a bit, to get people—and this is a bad thing to do, I think—to try to get panelists whose travel costs are not so great. I think that is distorting the process, but it might be necessary given the short amount of time we have.

On the program side, I think it would be also—in fact, even more—problematic, because a lot of our money has already been obligated. We have only two National Council meetings left, two more cycles of grants to go through; and so, we would have to take the money from the programs that are coming up in those two meetings, those two cycles. Those happen to include the preservation program and the summer seminars programs. Summer seminars proposals for the summer of 1996 will be coming up for decision in August.

Senator GORTON. So, I guess it is safe to say that the reductions that took place in the middle of a fiscal year would be determined on a different set of priorities than something that would take place if you knew from the beginning of the year they were subjected to them?

Dr. HACKNEY. Absolutely.

DETERMINING BUDGET PRIORITIES

Senator GORTON. Now, answer again the question I asked earlier: Assuming that the Congress determines that the National Endowment for the Humanities should go forward, but go forward at a substantially lower appropriation. Would you try to cover all or almost all of the kinds of activities that you are covering at the

present time, at a lesser amount of support? Or would you set priorities, say, in the field of preservation or some others that you felt were of such a high priority that they had to escape most of the reductions, even though that meant cutting out large areas that are now being financed by the Endowment?

Dr. HACKNEY. I would certainly not do an across-the-board cut. I would set priorities and eliminate programs, in order to keep a critical mass of funding in each of the program areas that we wanted to keep going, so that it would have a real impact and accomplish some good. I would obviously need to, and want to, consult very widely before making those sorts of priority choices. But I have thought about that a lot.

One thing that I might say, one guideline that I probably would be working with, is the idea that there are various functions in the humanities that are interconnected; that is, the preservation and strengthening of knowledge is connected with education, which is connected also with public programs.

I would probably want to keep energetic activity going in each of those three areas because I see them as interrelated, though in each area I probably would slim down the number of programs dramatically, and concentrate only in certain areas. Our fundamental commitment is to sharing the experience of the humanities with the American people, so I would want to keep going those programs that really broaden the reach of the humanities, and touch as many lives as possible. This would be another touchstone, I think: How many lives does this grant touch?

CHALLENGE GRANTS

Senator GORTON. Last, again, a question I asked of Ms. Alexander. Do your challenge grants go in essentially the same way that NEA's do, to capital purposes rather than particular purposes? Are there any endowments to which the Humanities Endowment makes contributions?

Dr. HACKNEY. We do. Challenge funds can go to building endowments for programs or humanities institutions. In fact, what is probably more typical is the infrastructural improvement that a challenge grant can make in an institution. We also give money for long-term program support. But in every case, a challenge grant is trying to build the stable infrastructure of humanities institutions.

Senator GORTON. Do you have the same 3-to-1 match requirement?

Dr. HACKNEY. 3-to-1 or 4-to-1. There are two alternatives.

Senator GORTON. Senator Bennett?

AMERICA AS AN IDEA

Senator BENNETT. Thank you, Mr. Chairman. I cannot resist the comment you made about George Washington. At some point, our schoolchildren will not know who he is or what he did. Some of the documents I have seen, they will know that George Washington was a slaveholder who, as a surveyor, took land away from the native Americans. And that will be the legacy that, presumably, will accrue to George Washington.

Which leads me to one area that I think has some relevance to your National Conversation. I hate to use the shorthand label, but

it is a label that we have kind of come to understand, for all its deficiencies. Every label has deficiencies. The movement to make us all politically correct, as part of the National Conversation that you are supporting funding and putting a very high priority on, scares me to death—for this reason, if I can be allowed a little bit of a sermon here:

We are the only Nation in the world that, at base, is founded on an idea. Every other Nation is tribal in its foundation, and is held together by a certain ethnic glue that may or may not be articulated, but carries significance through it.

Go to Japan, as I have done. I have owned businesses in Japan, I have done business in Japan. There is an enormous cohesion in that society that stems out of the fact that everybody on that island is related to everybody else, and has been for millennia. And down below the surface, there is still a strong tribal base that tells the Japanese that somehow, some way, they can feel superior to the Koreans or whatever other group. And I do not say that in a pejorative sense. It is the glue that holds the society together.

We see it in its worst manifestations in the Baltics, where the dependence upon a tribal sense of unity, or a tribal sense of Nation, has produced attempts at ethnic cleansing and genocide.

In the United States, we have no ethnic base. Maybe we did at one point, but we have long since lost it. You need only look at the television during the Olympics. You can see the French athletes; they all look French. And the Germans all have that Teutonic look about them. And so on. When they stand up to accept their award, you can tell just by looking at the individual what country he or she represents.

Then here come the American athletes. Kristi Yamaguchi, Carl Lewis, Magic Johnson, Larry Byrd, Greg Louganis, and the list goes on. And you cannot look at those people and say, "Oh, that's an American." Because we are held together by an idea which, in my view, is being challenged, corrupted, eroded, and ultimately destroyed by the political correctness movement which has at its base the conviction that there is nothing unique about American values; and that will spend its time teaching that Washington was a slaveholder who took land away from the rightful owners, instead of discussing the pivotal role Washington played in the Constitutional Convention that created a Government that preserved the idea.

The political correctness movement spends its time talking about Jefferson and his affair with Sally Hemings, which some historians still insist never existed.

Dr. HACKNEY. It did not exist, I am sorry.

Senator BENNETT. I understand that. That is my point. This is a canard that came out of Jefferson's political opponents, who used it in an attempt to defeat him in an election. And yet we hear over and over again, what a terrible individual Thomas Jefferson was.

Yes; he was a slaveholder. Yes; he agonized over that. And can we not talk about the pressures that came upon a son of old Virginia who was too much a man of his time to ultimately get rid of his slaves, but who put on paper the idea that holds us together: That all are created equal, that all are endowed by their Creator with certain inalienable rights, and that to secure these rights,

Governments are instituted among men, deriving their just powers from the consent of the governed.

That is an enormously powerful idea that has held this country together and, indeed, that Lincoln turned to at Gettysburg to try to bring the country back together; because Lincoln was smart enough to realize the country could not be stitched back together with blood and iron. It had to have something more powerful. And the power that Lincoln turned to, to reconstruct the country, was Jefferson's statement in the Declaration of Independence.

I can think of nothing more fundamental for this Government to fund than a humanities organization that preserves, exalts, and spreads that idea. I am beginning to despair of the ability of our institutions of higher learning. I know you were president of a university. I send my children to the university and, on occasion, not often but on occasion, I feel almost like the parent behind the Iron Curtain, who has to teach the kids at home because they are getting the propaganda line at school. And the only way we can keep the flame of freedom alive is to subversively teach our kids when the professors are not watching.

As my kids come out of humanities classes, hearing all kinds of incredible things about how terrible America is and how evil our Founding Fathers were and how, to be politically correct, we must trash everything American and cover ourselves with sackcloth and ashes and seek redemption for the fact that we are Americans.

And, if that takes hold in the next generation, America is doomed. Because the core idea that holds us together will be lost.

I apologize for having to give this sermon, and for making you sit there and listen to it. But I feel so strongly about it, I give it at every possible opportunity. And as I say, I cannot think of anything that the Federal Government should more appropriately fund in this age of political correctness than an organization that protects our foundation.

Would you comment, from your experience as a university president? I know the controversy that surrounded you, and the things you were accused of in George Will's articles about you, and all the rest of that. But here you are sponsoring, with Federal dollars, a National Conversation in an atmosphere where the kinds of people who will engage in that conversation, to a large extent, will be the politically correct who may use this in an effort to undermine the very ideological glue that is at the core of this country, and that keeps us together.

Because, if we ever come to the point where we do decide to break up along tribal lines the way every other society seems to be going in the rest of the world, if we do decide to Balkanize America and become our own version of Bosnia with little groups demanding their recognition based on an ethnic support rather than ideological support, it will be more devastating to this country than anything the Russians could have done or any other threat we have.

I do not mean to overdramatize it, but I feel very strongly that the threat to the continued survival of America may well lie in the area of the humanities and the discussion of America's past and America's basic social myth, which Mr. Jefferson enunciated and

which Mr. Lincoln returned to and which we seem to be taking great pleasure in trashing, in today's circumstances.

Now, I have just engaged in part of the conversation.

Dr. HACKNEY. You have, indeed. [Laughter.]

Senator BENNETT. I would like to have you react.

THE NATIONAL CONVERSATION AND NATIONAL IDENTITY

Dr. HACKNEY. Well, to the first comment: Hallelujah, basically. I think you and I agree entirely on the premise of the conversation that NEH is sponsoring.

I am as worried as you are about the future of the country. Some anthropologists are talking about this becoming a nation of nations, in which the members of each nation owe their loyalty not to the United States but to their former country. That is a worry, I think, that is overdramatized in the current situation, but that is the worry.

If you look around the world, as you have just done, you will find tribal conflict, communal conflict, sectarian conflict of a murderous variety almost everywhere you look: Northern Ireland; the Basque country; Bosnia; in almost every quadrant of the globe you have these intense, fierce battles going on.

And yet, when you come back and look at the United States, then, what is the implication of that for the United States? We have a population that is, indeed, derived from people from all over the world. And we have been quite proud of that. So the premise of the conversation really is not to accelerate the process of centrifugally falling apart, but to identify what I would say is the idea of America, and you have put it very well: This is a nation that is based on an idea, rather than an ethnic identity.

What the conversation tries to do is to bring together people from groups that do not normally talk to each other so much, to explore that notion based on some texts. Our texts, oddly enough, include, for instance the Declaration of Independence and Lincoln's second inaugural—the Gettysburg Address would be also appropriate. I use a speech that Lincoln uttered earlier, before he actually was inaugurated, which has the ideas in it already of America as the last best hope on Earth for democracy. The Union needed to persevere, because it was the world's hope for lasting democracy.

Which is something that I believe, although as the Chairman of the National Endowment for the Humanities and a Federal official, I do not think that I ought to prescribe, again, what people believe. But I certainly can use this program, which is very important but not costing a lot of money, to get people to think carefully about what America is, what it means, what it should be based on, and where it is going and how people should come together to find commonality across differences.

One of the scariest things that I have run across recently is a survey, a public opinion poll done by the National Conference of Christians and Jews just a year ago. Lou Harris did the survey, so it is a pretty good one.

The poll categorized people in four groups: European Americans; African Americans; Asian Americans; and Hispanic Americans. And they asked members of each of those groups a long list of questions about what they thought of each of the other groups.

What is depressing is that there were extremely high levels of negative stereotypes held by members of each group, about members of each of the other groups.

This is a multipolar problem. We need to come together. Though NEH cannot solve that problem entirely, we can certainly contribute to the solution. And we are intending to do that.

Senator BENNETT. I just have one other comment, Mr. Chairman. I agree completely that you cannot, should not even think of dictating the content; but there are other ways to influence the way the conversation comes out.

Again, to go back to the academic world: I am distressed that a university with the reputation of Wellesley would protest the appearance of the wife of the President of the United States because she happens not to hold the prevailing view of the faculty. There are different kinds of censorship. And one of them is silencing voices of those with a particular point of view.

You cannot dictate, you cannot control what gets said. But you can influence who gets invited. And the politically correct see to it that those who do not hold their views do not get invited; or, if they do get invited they get booed. They get hissed. They get shouted down.

These were the tactics of the brownshirts, and it is amazing to me that they get tolerated in the name of academic freedom; because they are attempts to silence any dissenting voices in society.

I am perfectly willing to have a face-to-face debate with any academic on this circumstance, and take my lumps if I get beat. But just one last one: I have a young lady from my Home State who went to one of the most prestigious Ivy League colleges there is. I will not identify which one, because it is not fair to do that; but I assure you, this is a true story.

This young lady was taken to breakfast by the President of that institution, who informed her that she had won by vote of the board of trustees, the most prestigious award it was possible for that university to grant to a student; but that it was being awarded there at breakfast, between the President of the institution and the student, because if it had been awarded publicly, the faculty would have denounced the administration and created a cause celebre.

Because, you see, this young lady was a Mormon who believed in chastity prior to marriage. She had organized the Young Conservatives on Campus, and even led the Young Republicans. Now, we cannot give an award to somebody who believes in a religion we consider to be backward; who has a sexual attitude we consider to be outrageously anachronistic; who holds a political view that we consider to be violative of everything in this university; and who belongs to a political party that no member of the faculty can tolerate.

So, young lady, here is your award—unanimously granted by the Board of Trustees—and we hope you will understand why we cannot give it to you publicly.

She is pursuing her law degree in Great Britain at the moment; and at some time, she will burst on the national scene, because she has those kinds of academic credentials: Absolutely straight A's, all the way through.

This is the kind of silencing that I think it is the responsibility of the National Endowment for the Humanities to speak out against.

Dr. HACKNEY. I would go out of my way to do that. I think that is intolerable. If I could say one more thing about the conversation, because it does fit with what you have said: There are some doubters on both ends of the political spectrum. The conversation is suspected of being both a camouflage attempt to make everybody politically correct; and on the other end, it is also suspected of being an attempt to get us all back into some sort of homogeneous white European culture.

It is really neither. It is meant to bring people together to think very carefully and to talk together about what America has been and what it is and what it should be in the future.

The comment that is important is, this is not going to be focused on academic institutions. This is meant to bring together people in their communities, in churches, in labor union halls, in senior citizen centers, in libraries and museums, wherever they will. We do welcome some academic partners in this, especially if they are in partnership with some other kind of community institution, so that they can bring together a good audience.

Senator BENNETT. Thank you, Mr. Chairman. I apologize for going on so.

ADDITIONAL COMMITTEE QUESTIONS

Senator GORTON. Dr. Hackney, thank you. Other members of the committee and the chairman will have questions that will be submitted to you in writing, and we would hope that they could be answered fully within the course of the next few weeks.

With that, this most interesting hearing is recessed.

[The following questions were not asked at the hearing, but were submitted to the Endowment for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Reauthorization hearings are providing the forum for discussion of whether the federal government should have a role in funding the humanities. Appropriators must go a step further and look at what we can afford to do at a time when strains on limited domestic discretionary spending are becoming more and more severe.

Question. What reasons can you provide for continuing federal support for your agency at a time of diminishing resources and escalating needs?

Answer. In creating the Endowment in 1965, Congress declared that an "advanced civilization . . . must give full value and support" to the arts and humanities, for "democracy demands wisdom and vision in its citizens." This declaration of purpose has even greater resonance today than it did thirty years ago. "Wisdom" and "vision" often appear to be in short supply in contemporary American society, a society whose bonds of social cohesion seem increasingly weakened. Through the study of the humanities, we are helped to overcome this fragmentation by learning of the ideals and understandings that we share as a nation. The humanities connect us to our past and help us gain new perspectives on events of the present.

As noted in the Endowment's enabling legislation, "the encouragement and support of national progress and scholarship in the humanities . . . are appropriate matters of concern to the Federal Government." Federal support for the humanities enables NEH to exert national leadership in the effort to bring the humanities' enduring truths to our citizens. The critical mass of support provided by a federal appropriation makes possible the preservation of America's precious cultural heritage, the creation of new knowledge that expands the bounds of our understanding, and the transmission of that knowledge to all of our citizens.

Question. If NEH were dismantled, where and how would your absence be felt most significantly?

Answer. The loss of NEH would be felt among the community of scholars whose work brings new insights into our understanding of the humanities; among the educational institutions that transmit the knowledge of the humanities to each new generation of students; among the cultural institutions that preserve our heritage and make possible the involvement in the humanities of an ever-widening public; and, most importantly, among the American citizenry, who ultimately benefit from all that the Endowment supports.

Without NEH, many significant and innovative research projects would simply not be undertaken. Projects such as the Papers of George Washington and the Dictionary of American Regional English--which make important contributions to our understanding of who we are as a people--could well grind to a halt. Similarly, much of our cultural heritage would be endangered for lack of a nationally coordinated effort to preserve the books and other artifacts of our national patrimony. Many of the books that are now crumbling on the shelves of our libraries would be lost to posterity, as would countless items housed in the nation's museums.

Also significantly at risk would be the students in our schools and colleges, who in the absence of NEH would be unable to benefit from the reinvigorated teaching made possible by NEH's educational programs. Tens of thousands of students are now the beneficiaries of the work undertaken by their teachers and professors under NEH grants; without these programs, the best of humanities scholarship and teaching may not make its way into the classroom.

Among all the potential "losers" in the event NEH were dismantled, perhaps the most disadvantaged would be the American public. Through NEH-supported humanities programs in communities across America, millions of citizens are able to gain new insights into history, literature, philosophy, and other humanities disciplines. They learn of Plato and Lincoln, of Homer and Hemingway. In doing so, they acquire a deeper understanding of what it means to be an American, and of what it means to be part of civilization's long march. Dismantling NEH would greatly diminish our citizenry's opportunities to benefit from the insights the humanities bring us.

Question. If it becomes necessary for agencies funded through the Interior Appropriations bill to absorb significant budget reductions, what corresponding programmatic reductions would you make? In other words, which programs would you keep in place to enable NEH to maintain an effective presence? What are your core programs?

Answer. In any situation where we would be forced to absorb major reductions, the Endowment would first try to ensure that sufficient funding remains available to sustain all four core areas of the agency's mission: 1) supporting significant and innovative scholarship in all humanities disciplines; 2) fostering effective teaching and lifelong learning in the humanities; 3) encouraging thoughtful public participation in and enjoyment of the humanities; and 4) preserving cultural and intellectual resources essential to the people of the United States. Before deciding how to distribute

budget cuts among the approximately thirty grant programs that advance these four broad programming areas, we would consult widely among members of the humanities community, including soliciting the advice of the Presidentially appointed and Senate-approved twenty-six members of the National Council on the Humanities. Two guidelines that would be uppermost in our minds if Draconian reductions became necessary, however, would be to ensure a stable humanities infrastructure throughout the nation and to continue our efforts to share the humanities broadly with the American people. At this time, we do not anticipate that we would apply such budget cuts equally or across-the-board to our programs but would, instead, base the reductions on the relative importance of specific programs and the capability of these programs to sustain significant reductions.

Question. Of the programs that NEH sponsors, which ones would be most likely to survive without federal support and why? Should the federal government support those endeavors that don't have a base in taxpayer interest? If yes, why?

Answer. We don't know which (if any) of our programs would survive without federal support. We do know that representatives of major philanthropic foundations have stated on numerous occasions that they wouldn't be able to make up for the loss of the Endowment.

The fact that many NEH-supported projects may not "have a base in taxpayer interest" does not argue that they don't merit federal funding. As the Endowment's Congressional mandate makes clear, "The encouragement and support of national progress and scholarship in the humanities and the arts, while primarily a matter for private and local initiative, are also appropriate matters of concern to the Federal Government." Support for exemplary, nationally significant humanities projects enriches the nation and its citizenry. In this sense the Endowment's federal subsidy is not unlike that provided to the National Science Foundation: The Foundation's support for research and education in the sciences does not necessarily benefit each and every taxpayer, but collectively the projects funded by NSF advance the nation's knowledge base and make possible the transmission of that knowledge to each new generation of students. The federal appropriation for NEH (at one-nineteenth the amount provided to NSF, we hasten to add) imbues the same sense of national purpose to the study of the humanities.

Question. Discussions of funding for the NEH have prompted critics to state that your agency provides dollars to a cultural elite. Former NEH chairs, William Bennett and Lynne Cheney, have called for dismantling both NEA and NEH. Political commentator, Charles Krauthammer, has referred to NEA and NEH as welfare checkwriters for the intellectual classes. In your testimony, you dispute the charge of cultural elitism. Why, then, do you believe this perception exists among your critics? Please discuss.

Answer. NEH exists to insure that our common cultural heritage is accessible to all Americans, not just an affluent elite. Because of timely and discriminating project funding by the Endowment, millions watch challenging television documentaries like The Civil War, FDR, and David Macauley's Cathedral. Because of NEH, millions in all parts of the country attend museum exhibitions, open to the general public without charge, and learn more about such topics as "Made in America: The History of the American Industrial System," "The Age of Rubens, and "Sacred Encounters: Father DeSmet and the Indians of the Rocky Mountain West." Because of NEH, additional millions, many of them elderly Americans, have participated in reading and discussion groups conducted by scholars in public libraries in every state. Because of NEH-funded study programs for school teachers, American students at all levels benefit from humanities instruction that is enriched by current scholarship. Because of NEH support for academic research in the humanities, our nation's leading scholars write books that are widely read by college undergraduates and by a broad, literate public--books such as Natalie Zemon Davis' The Return of Martin Guerre, Paul Fussell's The Great War in Modern Memory, Michael Kammen's A Machine that Would Go of Itself: The Constitution in American Culture, and James McPherson's Battle Cry of Freedom: The Civil War Era.

Mr. Krauthammer is right that NEH funding helps make cultural amenities such as these available to an affluent "elite" in greater quantity and variety and at a lower cost than they would be otherwise. What he and other critics of our alleged "elitism" tend to overlook, is that NEH helps make these same good things available and affordable for everyone else too--for school children, rural communities, the elderly, inner-city communities, middle-class families, in short, for all Americans.

TECHNOLOGY AND THE HUMANITIES INITIATIVE

A \$4 million appropriation is requested in FY96 for the first of a proposed three-year "Technology and the Humanities" initiative. The total estimated cost is \$12,000,000. The Endowment's initiative is described in your budget justification as part of a coordinated effort among a number of federal agencies

to build a "National Information Infrastructure" (NII) throughout the United States.

Question. It is my understanding that your original request to the Office of Management and Budget for this program in FY96 was \$25 million. What was the basis for that request? How do you now justify a request of only 15% of that amount?

Answer. During this era of severe budget constraints, we think that the \$4 million the President's request to Congress proposes to invest in the Endowment's Technology and the Humanities initiative represents a strong commitment on the part of the Administration to the importance of NEH's proposal. While we must, obviously, scale down the scope of our initiative, with \$4 million we will still be able to increase the number of grants and level of support we are now providing in some of our programs for projects that are bringing important humanities materials on to the electronic highway and providing wider access to these materials to the American people.

Question. Could you please describe the National Information Infrastructure in more detail? Which agencies are participating and what are their contributions? Who is coordinating the initiative? Is the private sector involved?

Answer. The National Information Infrastructure (NII) is a plan the Administration has developed to use some of the resources of the federal government to help develop and promote a national high speed, high-capacity electronic meta-network linking businesses, libraries, schools, and other institutions across the nation. The private sector is, as it should, actively taking the lead in building the information superhighway. Nevertheless, there remain essential roles for government in this process, which is the intention of the NII initiative. Carefully crafted government action will complement and enhance the efforts of the private sector and help to ensure the growth of an information infrastructure that is available to all Americans at reasonable cost. In addition to NEH, other federal offices and agencies that are involved in the development and application of information technologies are participating in the NII, including the Department of Commerce, the National Science Foundation, the Department of Health and Human Services, the White House Office of Science and Technology Policy, the National Institute of Standards and Technology, and the National Library of Medicine; an Information Infrastructure Task Force, chaired by Commerce Secretary Ronald Brown, is coordinating NII activities.

Question. At a time when many other federal agencies are seeking to expand technologically, how can we be assured that there will not be a duplication of

effort and commensurate federal dollars? Will all agencies' efforts be coordinated through the "NII"?

Answer. Yes, one of the chief purposes of the NII Task Force that is coordinating the initiative is to ensure that there is no duplication of effort among the agencies participating.

Question. If this is an area where NEH can make a critical contribution, but budgetary constraints prevent the Congress from providing the additional funding your agency has requested, should other NEH programs be reduced or eliminated to fund this initiative? Which ones?

Answer. While this is an area where the Endowment can indeed make an important contribution, we must stress that there are other critical areas of need in the humanities. These needs are reflected by the budget allocations we are proposing for our divisions and programs in our FY 1996 budget justification. If budgetary constraints prevent Congress from funding our full Technology and the Humanities request, we would still try to support some digital projects. The final amount and configuration of the FY 1996 appropriation would determine what would be possible and what other areas of NEH programming might be affected.

Question. Will there be a program of technology in the humanities in fiscal year 1996 without a \$4 million appropriation?

Answer. It would be difficult for NEH to implement and sustain a coordinated, focused initiative on Technology and the Humanities with funding much below the \$4 million level we have requested for FY 1996. At a reduced funding level, while we would still continue to fund a small number of electronic projects in some of our grant programs, we would be forced to rethink seriously the overall scope and thrust of the initiative.

REORGANIZATION

Question. The reorganization of NEH has been a major accomplishment for you during the past year. In addition to the Administration's commitment to "reinventing" government, what factors led to your decision to reorganize the structure of the Endowment? What strengths and weaknesses did you observe that have either been emphasized or eliminated through your efforts?

Answer. After a close study and analysis of our programming structure, agency managers determined that administrative oversight of the Endowment's approximately thirty grant programs was scattered too widely among our six existing program divisions. The chief purpose of our recent reorganization then was to create a more logical and efficient arrangement of grant programs within the agency. The key step in this process was to eliminate the Division of Fellowships

and Seminars, a division that had responsibility for a number of programs that helped to advance both the scholarly research and humanities education missions of the agency, and to shift its programs to other divisions. As a result of this action, all of the Endowment's grant programs supporting basic research and scholarship in the humanities are now centralized in one program division, the Division of Research Programs, and all of the agency's grant programs involving education in the humanities are now consolidated in one division, the Division of Education Programs. This reorganization will significantly streamline and simplify the Endowment's administrative structure. More importantly, prospective applicants should find our grant programs more logical and accessible since programs with common purposes are now grouped together.

Question. NEH makes the statement that "For thirty years, the National Endowment for the Humanities has been an efficient, model federal agency that has provided an invaluable service to the American people." If NEH is a model agency, why did it need reinventing?

Answer. As times change and new needs and opportunities arise, it is important for organizations to be able to adapt to meet new realities. Over its thirty-year history, the Endowment has continually "reinvented" itself, as it were, by creating new programs, eliminating or redesigning old programs, and adjusting its operations to meet changing needs in the humanities. When we say that NEH has been a "model agency," what we mean is that the Endowment has provided the American people with something of value--helping to preserve and increase understanding of our cultural heritage through the study and contemplation of the humanities--while being a wise and frugal steward of taxpayers' money. To build on this record, the agency must continually rethink its operations and processes; hence, our recent efforts to reorganize our programming structure and to streamline our operations. In any vital and dynamic organization, there will always be room for refining and improving core programs and processes.

Question. As part of your reorganization, the State Programs Division was incorporated into the Chairman's Office as a "Federal-State Partnership." Why? In practical terms, what will this mean for the State Humanities Councils? What changes will this reorganization bring about?

Answer. Our new Federal-State Partnership recognizes the evolution that has occurred in the relationship of the Endowment and the state councils during the years since these volunteer organizations were established in every state. Its title accurately reflects the present role of the councils, no longer as clients of the Endowment, but as its affiliates in a

joint effort to provide all Americans access to cultural enrichment and life-long learning opportunities in the communities where they live. By incorporating the Federal-State Partnership into the Office of the Chairman, Sheldon Hackney is also demonstrating his personal commitment to fostering a new spirit of collaboration between the councils and the Endowment.

During the past year, the Chairman and NEH staff have engaged in extensive consultations with the councils and the Federation of State Councils. Changes resulting from this new relationship so far have included opening up all program divisions of the Endowment to applications from the state councils and awarding an extra \$10,000 to each council to support activities related to the Endowment's National Conversation on American Pluralism and Identity.

These discussions will continue. As they do and as we develop a fuller understanding of the councils' needs and plans, the programmatic implications of the Federal-State Partnership will continue to take shape.

Question. The State Councils will be eligible to apply for grant support in all programming areas. How do you respond to opponents of this plan, who suggest it may take money from high quality university research?

Answer. As applicants to the Endowment's regular programs, the state councils will be subject to the same program guidelines and merit criteria that apply to any other applicants. Providing educational programs for the general public and learning opportunities for school teachers have long been the special strengths of the councils, and we would expect most funding proposals submitted by the councils to be directed to the NEH programs that support activities in those areas.

Even if a council were to apply for and receive NEH support to conduct a humanities research project, however, that support would not displace funding for high quality university research. For one thing, humanities scholars affiliated with institutions other than a university are already eligible to apply for NEH research support. For another, any research conducted or sponsored by a council with NEH funding would necessarily be high quality research easily comparable to high quality research conducted under the auspices of a university. That is because the competition for NEH support is so intense that only highly rated proposals can be approved for a grant. Finally, the recent change in the councils' eligibility has had no effect on the levels of funding allocated to the various NEH grant programs, including those that support humanities research. NEH support for humanities scholarship is not now any less, just because the councils can compete for funding along with universities and university-based scholars.

Question. In FY 1994, NEH supported grants to less than 19 percent of its applicants. Beginning in FY 1995, institutions that have previously received two Challenge Grants of matching funds can apply for additional awards after a four-year interval between awards. Given your limited resources, why should regrantees be encouraged?

Answer. Challenge Grants, which require recipient institutions to raise three or four dollars in nonfederal contributions for each dollar of their NEH award, have proven to be a very effective means of leveraging private support for the humanities. A number of institutions that are making an outstanding contribution to the nation's cultural life have successfully completed two Challenge Grants during the eighteen years since this programs was introduced. But for our new eligibility policy, these institutions would be barred from using the efficient fund-raising mechanism of a Challenge Grant, even though their institutional needs continue to grow and evolve.

We do not think that removing the limit on additional Challenge Grants will strain the Endowment's budget resources unduly. The more stringent, four-to-one fund-raising requirement for awards subsequent to the first, together with a four-year interval between Challenge Grants, should keep the number of (previously ineligible) recipients of a second award who now choose to apply for a third to within manageable limits in any given grant competition.

Question. Several categories of grants within the Education Division, for example, summer seminars for teachers and scholars, have been folded into the two broader programs of Higher Education, and Elementary/Secondary Education. From a programmatic perspective, this gives you greater flexibility. I'd like to ask you to look at this from an appropriator's viewpoint. Tell me why it is to the Subcommittee's advantage not to specify federal dollars for subdivisions of programs and thereby ensure the balance that has traditionally been maintained between particular programs.

Answer. NEH grants are awarded in response to project proposals submitted to a national, merit-based competition in each of our programmatic categories. The quality of the projects that the Endowment can support with a given annual appropriation is highly dependent on the quantity and quality of the funding proposals that grant applicants submit to these separate competitions. We believe it is to the Subcommittee's advantage that the Endowment have sufficient flexibility to respond during the year to the vagaries of the application cycles of programs whose purposes are closely related. But, this flexibility would be lost if the Endowment's appropriation were to specify federal dollars for the subunits within each of our broad functional divisions.

Each of the programs within these division-level groupings serves a common purpose--either formal or public education or research--but in a different way. The Subcommittee's understandable concern to ensure balance among the Endowment's traditional activities has been very effectively addressed over the years by annual appropriations that specify a level of funding for each division but permit resources to be shifted among the programs within those functional areas. In any case, the actual pattern of program funding during most years has not differed significantly from the appropriation allocations that we projected in our annual budget submission to Congress.

With respect to the new program configuration in the Education Division, it should be stressed that, although several funding categories will be terminated in FY 1996, others will continue within either the Elementary and Secondary Education program or the Higher Education program. In FY 1996, we do not plan to continue the Teacher-Scholars, Study Grants, or Younger Scholars programs. However, Summer Seminars will continue, and with approximately the same level of funding that was allocated in FY 1995. Similarly, the activities formerly supported by the Science and Humanities and the Foreign Language Education programs will be addressed by the division's comprehensive programs, both of whose budget allocations will be correspondingly enlarged. The balance that has traditionally existed among these activities will be maintained in FY 1996.

The Summer Seminars programs are being transferred to the Education Division, whose summer institutes serve a similar function, as part of an Endowment-wide reorganization designed to make the agency's administrative structure simpler and more efficient. The Science and Humanities and the Foreign Language Education programs were designed as temporary means to give additional emphasis to important activities long supported by the Education Division. These programs have served their function admirably, and we have reason to expect that many more grants for projects that integrate science into the liberal arts curriculum or improve the study of foreign language will be awarded by the Education Division as a result.

Question. Please share with us your future plans for continuing to streamline the NEH.

Answer. Our ongoing streamlining efforts are being shaped by the Administration's National Performance Review. We have formed an NPR team that is now at work developing a plan to carry out the review in a manner that is mission-focused and customer-driven. The plan will call for extensive consultation with the policy, program, and administrative staff of the Endowment, and with the many groups of "customers" served by the Endowment's grant-making programs and administrative offices. We will be asking these

customers to suggest ways of making our operations more efficient and responsive to their needs. Underpinning this entire NPR effort is a commitment to streamline operations and reduce red tape.

ACCOUNTABILITY

Question. A number of the grants awarded by NEH are sizable. For example, within the Public Programs division, large projects may receive over a million dollars; some awards are in the hundreds of thousands. What means do you have of ensuring that grant money is properly used and produces the expected results? Is there a process in place to guarantee that the taxpayers' money is being wisely spent after it is awarded?

Answer. NEH grants are awarded on a merit basis in a national competition that is exceptionally rigorous; only 18.8 percent of our applicants were successful in FY 1994. In general, applicants do not get a grant unless they have exhaustively described in a detailed narrative proposal and project budget just what they intend to do with the taxpayer's money--and have done so to the satisfaction of a peer panel, NEH staff, the National Council on the Humanities, and the Endowment's Chairman.

The Endowment is carefully attentive to the use of federal grant funds throughout the implementation phase of a project too. Grant recipients are required to submit interim and final reports that document compliance with the provisions of their award. Among other things, grantees typically must ensure that: a proper financial management system is in place, project activities are being carried out in accordance with a stipulated schedule, and changes in the scope, objectives, or personnel of the project are not made without prior NEH approval. The overwhelming majority of our grantees conscientiously comply with the conditions of their award.

NEH support for large or long-term projects is usually awarded in discrete increments. For example, to ensure that a film project, inherently an expensive and risky venture, is progressing satisfactorily, we award support in separate stages. With few exceptions, such projects first receive small awards for planning and scripting, and only later are they allowed to compete for major funding at the production stage. Collaborative research projects to produce scholarly editions, such as the writings of George Washington, or research tools, such as Thesaurus Linguae Graecae, are sustained over the many years required for their completion by a succession of NEH grants. At each successive funding application, the directors of such projects must convince a panel of their peers and the Endowment that their research project is exceptionally worthy in comparison to others and is progressing at an appropriate rate.

Question. In a similar vein, how do you ensure programmatic integrity for awards, such as the residential fellowships at independent centers for advanced study, when a grant is made to an institution that in turn conducts a competition and selects the NEH fellows?

Answer. We have a number of oversight mechanisms in place to ensure the "programmatic integrity" of the grants that are awarded by institutions supported through the NEH Centers for Advanced Study program. In exercising this oversight, it is the Endowment's intention that both the integrity of the process the centers use in awarding their grants and the quality and significance of the projects undertaken by the fellows measure up to the Endowment's own high standards of quality. As part of the process of applying for a grant, for instance, the Endowment requires centers to explain in detail how they plan to award fellowships supported with NEH money. Although the final selection of NEH fellows is a center's prerogative, the Endowment requires a center to have in place a process that is fair and objective and that relies on the advice of scholars and other evaluators who are not on the center's board or staff. After each application cycle, each center must also provide the Endowment with a full report on its fellowship competition. This report must include a description of how the competition was publicized; a description of the selection process; the names of the fellows selected and the fellows' full grant applications, including resumes, project proposals, tenure periods, and stipend amounts. The Endowment also conducts periodic site visits to centers to evaluate the institution's fellowship program in the humanities.

NON-FEDERAL SOURCES OF SUPPORT

Question. You refer to "program income" in your discussion of funding public programs such as the Civil War Series. Approximately how many of your grants generate income for NEH? From which types of projects? Approximately how much annually? Can these types of efforts be expanded to make some of your divisions, such as public programs, more or less "self-sustaining"?

Answer. Very few public programs sponsored by the Endowment have produced a profit. Since 1972 when the Endowment first instituted a program income policy, the Endowment has recovered no more than \$3 million from about two dozen profit-making projects. The \$1.3 million in income generated for the Endowment by The Civil War series was by far the largest amount that we have recovered from an NEH-funded project. The Endowment's share of the profits from this phenomenally popular television series--an amount equivalent to our entire grant for The Civil War--was used to provide

matching funding for Ken Burns' next effort, the Baseball series.

According to NEH policy and the terms of our standard award letter for potentially profitable projects such as media productions, the Endowment receives a share of any net income in excess of \$50,000 that accrues during the grant period plus five years. That share is equal to one half of the percentage of the total project budget comprised by the Endowment's grant, but not more than the total amount of our award. Recovered funds are usually returned to the U.S. Treasury. However, on a number of occasions the Endowment has allowed the grantee to apply the federal share of program income toward some subsequent project also approved for NEH funding.

Most public programs supported by the Endowment--such as television productions, museum exhibitions, or library reading and discussion programs--are offered to the public for free. Any profits associated with these types of activities typically flow from some secondary means of distribution. For example, because NEH-sponsored films must first be made available without charge to PBS for national broadcast, the Endowment's \$1.3 million share of program income from The Civil War was generated mostly by video and audio tapes sales.

Few of the film-makers, museums, libraries, colleges, or other humanities institutions that the Endowment supports are "self-sustaining." Most could not exist without some kind of subsidy, public or private. Nevertheless, it should be possible in principle to put the Public Programs division more nearly on a paying basis by generating income from some profitable projects in order to pay for others. However, this would almost certainly require abandoning our long-standing commitment to reaching the widest possible audience by offering public programs free of charge. Undoubtedly, many of the visitors to our museum exhibitions would be willing to pay a substantial admission fee, and several commercial cable networks would be happy to purchase NEH-sponsored films. But some Americans, perhaps the ones we most need to reach, would be excluded from the benefit of an activity supported with taxpayer dollars.

We should also be wary of the perverse incentives "self-sustaining" programs might introduce into the Endowment's merit-based grant award process. The Endowment should support humanities projects because they advance knowledge or because they give as many Americans as possible access to the full richness of their cultural inheritance. Profit should not be a factor. The unwholesome results of purely market-driven programming decisions are all too evident in some of our commercial broadcasting media.

Question. Faced with possible budget cuts, has there been discussion of ways in which NEH could garner more non-federal support from profit-making projects in

which it has been a major contributor? If so, what kinds of arrangements are you looking at?

Answer. We have had discussions with our authorizing committees about the possibility of giving NEH the flexibility to recover more program income by amending our legislation during this reauthorization process. Specifically, it has been suggested that our authority could be codified to recover program income and to give the Chairman the authority to set the terms of the program income recovery clause--enabling the Endowment, when it believes it is appropriate, to require a grantee to share program income with the NEH derived directly from the NEH-funded project and from products, licensing agreements, and other revenue producing ventures related to the NEH funded project. The suggested provision does not cap the amount of program income NEH could recover.

One desirable way would be to provide for the program income returned to NEH to remain available for use by the Endowment to support other worthwhile projects. This would enable NEH to deposit program income in an NEH trust fund account in the Treasury, which could draw interest and be disbursed by the NEH in support of its programs. It should be noted that the amendments we are suggesting specify that if the money is used to support new grants, the applications for those grants must receive the same peer review as projects supported with appropriated funds.

Question. For the record, please document what program income NEH received in the most recently completed fiscal year.

Answer. In FY 1994, we received \$18,785 in program income from four NEH-funded film projects.

Question. How much money comes to NEH through individual gifts? For the record, would you please list for us the major contributors -- foundations, corporations -- to the NEH?

Answer. In FY 1994, NEH matching grants for projects and Challenge Grants for long-term institutional support leveraged \$68.7 million in gifts from contributors of all kinds. Individual contributors accounted for 39 percent of that amount, private or public foundations for 34 percent, corporations and business for 15 percent, and state and local government for 8 percent. Private gifts to the Endowment itself totalled only \$65,000.

It bears noting in this regard that the recipients of NEH grants themselves contribute a substantial portion of the costs of their projects. In FY 1994, grantees contributed \$137.6 million from their own institutional resources toward the costs of NEH-funded projects.

CHAIRMAN'S FUND

Question. Thirty-four percent of the appropriation for the State Programs Division is set aside for what is referred to as the Chairman's Fund. Would you explain how this fund is used? How much of it is returned to the states via categories such as exemplary awards? How much is allocated for activities that are not state-specific? Please explain.

Answer. In FY 1995, State Programs' National Funds will total an estimated \$5.7 million and will be allocated as follows:

\$1.5 million to supplement the councils' base grants with unrestricted funds distributed according to state population (with a floor of \$20,000). These awards help redress the more populous states' disadvantage--created by the legislated funding formula--in funding per capita.

\$1.1 million to supplement with definite funds the Treasury funds distributed to the councils for the purpose of matching private sector and state government support.

\$560 thousand to provide funds for public meetings mandated in the authorizing legislation.

\$750 thousand for State and Regional Exemplary Awards and Planning Grants.

\$275 thousand in grants for the National Conversation.

An estimated \$85 thousand to cover the costs of travel, honoraria, and other expenses for NEH-sponsored meetings for council members, council chairs, and executive directors.

\$438 thousand to maintain the Councils' base awards at the FY 1995 level.

\$18 thousand toward group liability insurance for the councils.

\$125 thousand for cost of living supplements for the Alaska and Hawaii councils.

\$80 thousand for the NEH/NSF "Nature, Technology, and Human Understanding Program."

\$30 thousand for the NEH/Kettering Foundation partnership.

\$225 thousand for an electronic communications link-up among the Councils.

\$530 thousand unallocated.

CHARLES FRANKEL PRIZE

In addition to the Jefferson Lecture in the Humanities (\$10,000 stipend), the Endowment annually awards the Charles Frankel Prizes to five individuals who have made outstanding contributions to the public's understanding of the humanities. In the past, a \$5,000 stipend, allocated from the Chairman's Fund, has been made to the recipients of these prizes. In FY 1994, prize winners were Ernest Boyer, William Kittredge,

Peggy Whitman Prenshaw, Sharon Percy Rockefeller and Dorothy Porter Wesley.

Question. Will you continue to provide a \$5,000 stipend for these prizes in 1995?

Answer. Monetary awards for the Charles Frankel Prize were discontinued in 1994.

Question. If the stipend for these awards is discontinued, how will the \$25,000 savings be used? Will it be used for state-specific projects or will it be continue to be reserved within the Chairman's Fund and designated for other uses?

Answer. From FY 1989 when the Charles Frankel Prize was instituted until FY 1993, the costs of these awards were supported by the Chairman's Fund. In FY 1994, the stipend was discontinued. The \$25,000 thus saved accrues to the Chairman's Fund (\$5.7 million in FY 1995), much the greater part of which is allocated among the councils.

Question. By what process are the Frankel Prize winners selected?

Answer. Each year we invite a broad range of individuals and organizations to submit nominations for the Frankel Prize. Nominations are reviewed by members of the National Council on the Humanities, the Endowment's Presidentially appointed board of 26 advisors. The Council recommends a slate of finalists for consideration by the NEH Chairman, who then selects up to five winners.

OUTREACH

Question. In this and previous years' budget justifications, NEH states that it will strive to increase its outreach to potential applicants through both its rural and minority initiatives. How do you plan to continue and improve these efforts?

Answer. The Endowment routinely distributes information to humanities institutions and potential grant applicants about the funding opportunities that we offer. Our outreach effort goes beyond that. It comprises a wide variety of means to insure that individuals and groups that have not often applied for NEH grants or participated in NEH-sponsored programs are made aware of what the Endowment has to offer. In recent years, our particular concern has been to reach rural, inner-city, tribal, and minority communities.

Outreach activities are conducted by the regular professional staff of the program divisions, with the direction and coordination of the Endowment's Deputy Chairman. These activities typically include conducting grant-writing workshops and providing special mailings for targeted groups, speaking about Endowment programs at the periodic meetings of constituent organizations and placing informational

articles in their publications and journals, and encouraging prospective applicants among these groups to take advantage of the Endowment's standing offer to critique a preliminary application.

In FY 1996, we will intensify our outreach effort by a variety of means, including developing annual division-level and Endowment-wide outreach plans, gathering data to identify constituencies that have not typically participated in NEH programs as much as others, providing training to NEH staff on successful workshop formats and promotional materials, and improving our targeted mailing lists.

Question. NEH fellowships are offered for HBCU (Historically Black Colleges and Universities) faculty members to pursue graduate studies in the humanities. Since this program began in 1983, 110 teachers at HBCUs have received fellowships for graduate study, and 44 have completed their doctorates. Do you consider this a successful program? Do you think it could be improved? In what ways? Does the Department of Education have a comparable program?

Answer. Yes, we consider this program to be a success. It is important to remember that the awards in this program go to faculty who have heavy teaching loads and who find it difficult to find adequate time to work on their doctorates. The NEH Faculty Graduate Study award provides these busy teachers with an opportunity to devote up to one year of continuous study to their doctoral degree in the humanities, thus shortening the time it would otherwise take them to earn the degree. We do not have any immediate plans in mind for improving the program but remain open to suggestions. It is our understanding that the Department of Education does not have a comparable program that addresses the needs of HBCU faculty vis-a-vis the Ph.D. in the humanities.

PRESERVATION AND ACCESS

Question. Within the Preservation and Access division, you fund the brittle books project. Are there other sources of support for this preservation project, such as the U.S. Archives and the Library of Congress? To what extent is there coordination? Are there private foundations that support these kinds of preservation efforts? Would any of these efforts duplicate what you are doing?

Answer. The Endowment provides support to the nation's research libraries, archives, and other repositories for projects to microfilm significant brittle books in their collections. The Library of Congress, on the other hand, is very active in preserving endangered books in its own collections. Likewise, the National Archives concentrates its efforts on the preservation of its holdings and the preservation needs of the various state archives.

The Endowment requires that records for all titles of brittle books preserved by supported projects be entered into a national bibliographic data base to keep other libraries apprised of what has been saved and to ensure that there is no duplication of microfilming.

Private foundation support for the preservation of humanities materials is limited and does not duplicate the support NEH provides. The Endowment's support for preservation has, however, helped to encourage private foundations and other third-party funders to contribute to the national preservation effort. In FY 1994, for example, we matched almost \$280,000 in gifts to projects we are supporting in our Preservation and Access division.

DISSERTATION GRANTS

The Dissertation Grants program to assist students in completing their doctorates was initially funded in 1992, with the first awards granted in May of 1993. Judging from the number of applications anticipated in the coming year (800) for an estimated 25 awards of \$14,000 each, there is an active interest in the program.

Question. What is your assessment of this program? How do the administrative costs of managing a program that attracts a large audience compare to the relatively small amount of money (\$350,000) available in this category for awards?

Answer. We think the NEH Dissertation program has been successful in fulfilling its mission: to identify and honor the nation's best Ph.D. candidates in the humanities by providing them with one year of support to complete their dissertations.

It is true that this program is relatively expensive to administer given the small number of awards and the large number of applications. We are considering ways to reduce the high cost of reviewing these proposals, such as using mail-out rather than sitting panels. For now, in consideration of the scarcity of funding resources and the existence of needs elsewhere in the humanities, we have determined that it is best not to increase the number of awards or the program's budget but rather to keep the program at its current extremely high level of competition.

Question. The first grants in the Dissertation Grants program were awarded to 51 graduate students at 39 institutions in May of 1993. In one year, this was almost half the total number of 110 awards made for HBCU graduate study fellowships since that program's inception in 1983. What reasons do you believe contribute to this dramatic discrepancy in two programs which, while distinct, in one sense share a common educational goal?

Answer. The wide difference in the number of awards made in these two programs is the result of the

different character of their respective applicant pools. The Faculty Graduate Study awards, for example, are limited to HBCU faculty members who are pursuing the Ph.D. in the humanities. Statistics that would indicate how many HBCU teachers are working on their humanities doctorates are not available, but it is our impression that there are a very limited number of prospective applicants who match this profile, as is reflected by the fact that the program receives only 20-25 grant applications and makes approximately 10 awards yearly. On the other hand, our Dissertation Grants program is open to all doctoral students in the humanities in the U.S. who are at the dissertation-writing stage of their degree program. We estimate that this population totals at least 4,000 students; hence, the relatively large number of applications (about 800) and awards (about 50) in this program vis-a-vis the Faculty Graduate Study program.

FEDERAL-STATE PARTNERSHIP

During recent Senate reauthorization and House appropriations oversight hearings, the suggestion has been made to fund humanities projects by block grants to the states.

Question. Have your state council directors responded to this proposal? Are they supportive of this concept? Please share their comments with the Subcommittee.

Answer. Our impression is that the councils would not favor this proposal--primarily because, as private, volunteer organizations, they would have no assurance that funding awarded in the form of block grants to state governments would ever reach them. At a recent Federal-State Partnership meeting chaired by Sheldon Hackney, the nine council directors present unanimously voiced disapproval. A position paper developed by the Federation of State Humanities Councils lists the following as likely consequences of converting federal humanities funding to block grants:

- Humanities programs would, in most cases, probably disappear.
- State humanities councils are not government agencies; in all likelihood they would not receive funds and so would cease to exist.
- The NEH would be eliminated. A national agency makes possible the funding of national programs that would not exist under a state block grant formula.

In FY 1996, the NEH Federal-State Partnership will implement a joint agreement with the National Science Foundation to support programs of public discussion on the interrelationships between the humanities, science, technology and engineering.

Question. What will the NEH contribute to this endeavor? What is the NSF contribution? Please explain how the program will work.

Answer. NEH has allocated \$80,000, and NSF will contribute \$150,000. The Endowment will conduct the grant competition, including convening a review panel to evaluate proposals submitted by the state councils. Grant recipients will be chosen with the concurrence of both agencies.

This special competition will be similar to the Nature, Technology, and Human Understanding program sponsored jointly by NEH and NSF in FY 1993 and FY 1995. Through the network of state humanities councils, we expect to reach a broad public with programs that explore questions that arise from the interplay among democratic institutions or ideals and the sciences, engineering, and technology. Programs that actively involve students and teachers are especially encouraged.

In FY 1993, for example, NEH and NSF jointly sponsored a program entitled "Knowing Our Place: Humanistic Aspects of Environmental Policy Making." Conducted by the Massachusetts council, it brought citizens of five Massachusetts communities and invited scholars together to discuss the implications for democratic decision-making of the high level of scientific expertise now required in order to formulate environmental policy.

In the next fiscal year, state humanities councils will continue to play a role in the National Conversation on American Pluralism and Identity, a special initiative started during your tenure.

Question. How active have the states been in promoting this initiative? Have the state councils been the primary means for facilitating this "Conversation"? Could you comment on its success at this point?

Answer. Although a wide variety of humanities institutions and community organizations is participating in this initiative, the state councils are playing a particularly active role. Our goal is to involve Americans of all backgrounds in the National Conversation. The councils are bringing formidable resources to that task. Through long experience, they have become impressively adept at developing discussion programs and other educational activities for the general public on topics of broad interest--including the topic of American pluralism and identity--and over the years they have constructed an invaluable network of relationships with locally based organizations in every state. The councils are participating in several phases of the initiative. Each of the councils is using a special NEH award of \$10,000 award to support programs related to the National Conversation. Several councils have

successfully applied for additional funding for National Conversation projects through the Exemplary Award competition and through the grant categories of the Public Programs division, including the Special Competition on the National Conversation. The councils are also helping to distribute the National Conversation kits.

With its \$10,000 special award, for example, the Alabama council, in conjunction with the Alabama Growth Strategies Task Force, will sponsor a series of public forums on "Rebuilding Alabama's Front Porch." These discussions will consider the historical background of a widely perceived decline in community life and entertain ideas for strengthening the values and relationships needed to create viable communities for the next century. The Missouri council has received an Exemplary Award of \$49,000 to support a traveling chautauqua presentation in which scholars will portray such turn-of-the-century figures as William Jennings Bryan, W.E.B. DuBois, Andrew Carnegie, Elizabeth Cady Stanton, and Rabbi Isaac Wise. The competing visions of these Americans will provide a historical context for the contemporary debate on ethnic, racial, religious, and cultural diversity.

Two of the recently announced winners in the first round of the Endowment's Special Competition for the National Conversation were state councils. The Arizona council received \$37,000 to conduct conversations in six communities throughout the state on the topic of "Immigrant Culture, Values, and Identity in Arizona." Three themes will be addressed: the foundations of cultural values and identity, the effect of the immigrant experience on individual values and identity, and the effect of the immigrant experience on community values and identity. The Colorado council received \$60,000 to conduct town meetings and seminar-style conversations in five Colorado communities. Developed in conjunction with local libraries, museums, and colleges, each of the "Conversations 2000" will be opened by Clay Jenkinson, the well-known portrayer of Thomas Jefferson and winner of the Endowment's Frankel Prize.

The National Conversation is just beginning; we have only recently announced the first round of grants awarded under the initiative. Nevertheless, it is possible to speak of several successes at this point. We are excited about the projects we have funded so far, including: an effort by the Great Books Foundation to conduct 259 conversations in Philadelphia, Chicago, and San Francisco; and a nationwide series of conversations to be led by humanities teachers at community colleges, institutions that are remarkable both for their diversity and for their links to the surrounding community. We have held successful pilot conversations in Lowell, Massachusetts; Oklahoma City; Houston; Detroit; and Garden City, Kansas. We have received more than 3,200 requests for materials that

will help groups and communities conduct conversations with their own resources and have distributed more than 1,000 copies of a National Conversation resource kit that we developed with the help of the MacArthur Foundation. Several national educational and philanthropic groups have offered to assist the National Conversation in various ways, including: the Kettering Foundation, which will hold its National Issues Forum on the topic of American pluralism and identity; Time Warner, Inc., which is developing a related traveling exhibit and educational resource materials for the schools; and the American Bar Association, which will make the Conversation the focal point of National Law Day. Finally, a film on the National Conversation is being produced for national broadcast.

ADMINISTRATIVE COSTS

Question. Administrative costs are proposed to increase by \$1,419,000 in FY96 for a total of \$23,110,000, or 12% of the NEH budget. Personnel compensation and benefits (\$16,604,000) and rental payments to GSA (\$2,041,000) account for \$18,645,000 of this total. Further costs for utilities, communications, equipment, supplies and panelist contracts account for another \$2 million. If NEH has to make reductions in administrative costs, where will the cuts be made?

Answer. Any specific reductions in administrative costs that NEH would make in FY 1996 would depend on the level of administrative funds that is appropriated. Most of the Endowment's administrative budget is needed to provide for a minimum level of administrative support for the agency, including personnel costs, space rental payments to GSA, phone and mail service, printing of program guidelines, panelist costs, and support contracts for items such as guard service at the Old Post Office building and maintenance for ADP and other equipment. The Endowment's many streamlining initiatives and its performance-based approach have allowed the agency to provide administrative services at the least possible cost.

Our administrative budget pays for certain items that will make NEH even more productive, but some could be postponed if our FY 1996 administrative funding level makes that necessary. For example, we might have to consider cutting back on our plans for evaluating the agency's programming. Also, we could defer our proposed expansion of travel for outreach activities that help ensure our programs reach all areas of the country, and possibly reduce lower priority travel, supplies, equipment, and staff training.

If the FY 1996 appropriation is substantially lower than our request, we will have to resort to additional actions such as hiring freezes, furloughs,

and other measures--including reductions-in-force--that would impair our ability to provide optimum service to our customers.

Question. What function does the President's Committee on Arts and Humanities serve? What sorts of costs does the NEH absorb in this regard and how much does this Committee claim out of the NEH annual administrative budget?

Answer. The mission of the President's Committee on the Arts and the Humanities (PCAH) is to analyze and make recommendations to the President and to the NEH and the NEA with respect to:

- ways to promote private support for the arts and humanities, especially at the state and local levels;
- the effectiveness of federal support for the arts and humanities in stimulating increased private support;
- the planning and coordination of appropriate participation in major historic national events; and
- ways to promote the recognition of excellence in the arts and humanities.

The NEH and the NEA will share equally the cost of PCAH's proposed FY 1996 operating cost of \$396 thousand, in equal amounts of \$198 thousand. For its part, the NEH will pay \$135 thousand in salaries and benefits for 2 Endowment employees assigned to the PCAH and it will pay an additional \$6 thousand for the travel expenses of those employees. By the terms of an interagency agreement between NEH and NEA, the Endowment will reimburse the NEA a total of \$57 thousand for a share of non-personnel PCAH expenses including GSA space rent, telephones, postage, printing, contracts, supplies and equipment.

The NEH's FY 1996 cost of \$198 thousand to support PCAH represents nearly 1 percent (nine-tenths of 1 percent) of our FY 1996 request of \$23.110 million.

Question. Increases are factored into your FY96 administrative budget for items that will be impacted by the proposed technology in the humanities initiative. Specifically mentioned are travel/transportation expenses, and panelist contracts. If the \$4 million request for this proposal is not appropriated, by how much would your projected FY96 administrative costs be reduced?

Answer. Our FY 1996 administrative request includes a total of \$50 thousand to support the proposed Technology and the Humanities initiative. The largest portion of the \$50 thousand is for panel costs, but funds are also included for staff travel, printing, mail, supplies, and small contractual services.

Question. The budget for National Council members' travel has been reduced by \$12,000 because the number of Council meetings will be reduced from 4 to 3. You state that travel associated with the technology in the humanities initiative will be offset by this savings. How much has been estimated for travel associated with the technology in the humanities proposal?

Answer. Our FY 1996 administrative budget request includes \$10 thousand for travel costs in support of the proposed Technology and the Humanities Special Initiative. The \$10 thousand for travel is part of the \$50 thousand in administrative funds needed for this initiative in FY 1996. The travel funds will be used for site visits for major projects and to attend scholarly conferences and relevant professional group meetings.

Question. How will a reduction in Council meetings from 4 to 3 affect the review process? Has the review process been streamlined to accommodate the three meeting per year schedule? Please explain.

Answer. The reduction in the number of Council meetings from four to three will not affect our review process. Although the application deadlines of some programs will be adjusted to accommodate the new schedule, these changes will not affect the process itself. The Endowment remains committed to maintaining the fairness and integrity of its review system.

Question. The personnel compensation and benefits object class includes the members of the National Council. Do Council members receive compensation and/or benefits? Please explain. What is the total included in this object class for Council members?

Answer. Members of NEH's National Council receive a salary of \$135 per day. This rate has been in effect for the last twenty-five years. It was last increased in July 1970, when the daily rate was raised from \$70.

Because these employees are covered by Social Security, the Endowment also pays benefits at the rate of 7.20 percent of salary, as required by the Federal Insurance Contributions Act (FICA). This cost to the agency is for Medicare and for Old Age Survivors and Disabilities Insurance (OASDI).

Total FY 1996 personnel compensation and benefit costs for National Council members is estimated at \$17 thousand.

Question. \$20,000 is requested for invitational travel. When is the decision made to provide invitational travel? Please give some examples.

Answer. Some invitational travel costs are for reimbursement to persons (non-employees) meeting with the Chairman and division officials on policy and program matters. Examples include travel costs for contributors to the development of the National

Conversation, for participants in the NEH Federal/State Partnership, and for leading humanists who travel to Washington to make presentations to Endowment staff on recent research and academic advances.

Invitational travel cost is also incurred occasionally for certain job interviews. In those instances, the Endowment reimburses out-of-town applicants who are invited to Washington for an interview, but this is usually limited to higher paid, critical positions.

Question. GPO has advised NEH that printing costs are expected to increase by 2.7% in FY95 and 2.8% in FY96. Could your costs be reduced by using outside contractors? Is this feasible? What would be necessary to implement this?

Answer. The GPO estimate reflects an assumption that government-wide printing and binding costs should increase by 2.8 percent in FY 1996 as a result of higher expenses for materials and labor. But printing prices should also rise for private vendors as well as GPO.

Current law requires that printing requests go through GPO. We think that NEH printing costs would decrease if we did have authority to bypass the GPO middleman and work directly with private vendors. The GPO charges agencies a 6 percent overhead charge for handling print orders, and that is in addition to the actual cost of the print job. If a particular publication is needed in less than 3 months, it is considered a rush order and the overhead assessment is increased to 9 percent. The overhead cost is meant to cover GPO administrative costs for contractual work with vendors. If NEH were allowed to bypass GPO and work directly with private vendors, the GPO overhead assessment could be avoided although it might be offset partially within the Endowment by higher costs for additional contractual work. In any case, we think that, generally, net savings would result if the GPO middleman function could be bypassed by the Endowment.

A waiver would have to be authorized that exempts NEH from the requirement that agency printing orders be submitted through GPO.

Question. How much does it cost the NEH to produce Humanities magazine. Is it a profit-making publication for you? Please explain.

Answer. The FY 1994 cost for publishing Humanities magazine was \$246 thousand. Personnel salary and benefit costs were \$129 thousand, or about one-half of the total cost. Personnel costs are based on the percent of time spent by certain employees on the magazine, including writer-editors, a secretary, some clerical staff, and a supervisor in charge of the publication. Non-personnel costs included \$60 thousand for a design and layout contract, \$43 thousand for direct printing costs, \$9 thousand in honoraria to

contributing writers, and an additional \$5 thousand for postage and handling, transcribing interviews and conversations, and for reproduction rights for photographs used in the magazine.

The Endowment receives no subscription revenue for Humanities magazine because all subscription fees are paid by subscribers directly to the Government Printing Office.

Question. How much is included to enhance your Intergovernmental Personnel Act (IPA) program? You hope to have two IPA staff on board by the end of FY96. Where would they be assigned?

Answer. Our FY 1996 request includes \$135 thousand to pay for 2 IPAs in FY 1996. In the past we have found IPAs to be very valuable because of the fresh perspectives they bring to the Endowment and because of their knowledge about recent developments in the humanities. If funding is approved for 2 IPAs in FY 1996, we will review our program areas and assign the IPAs where they can be of most benefit to the agency.

Question. Is the honorarium still \$200 per panelist? Do individuals who serve on more than one panel during a year receive more than one honorarium?

Answer. Panelists receive an honorarium of \$200 for an entire panel meeting, whether a one-day or two-day meeting. This \$200 also covers all the work they do reading and preparing preliminary evaluations of the applications before they come to NEH. Similarly, mail out panelists also receive \$200.

Panelists very rarely serve more than once in a given fiscal year, for example: Only 24 of the 1,175 NEH panelists in FY 1994 served on more than one panel. Repeat panelists are paid the \$200 honorarium for each panel on which they serve.

Question. \$650,000 is requested for the Assessment Studies program. How does this program work? Are projects competed? How are they selected? In addition to surveys already supported, funds have been requested for initiating one major survey. How much is included in your request for this new initiative?

Answer. The funding allocated to the Assessment Studies program enables the Endowment to participate in a variety of data collection projects that are designed to inform the planning and policy deliberations of the agency. Each year the program contributes funds to two major survey operations: the Survey of Earned Doctorates (a universe survey of all new Ph.D.s awarded each year) and the Survey of Doctorate Recipients (a sample survey of individuals who have earned a Ph.D. at any time in the last 42 years). In addition, the program regularly funds the Department of Education's National Study of Postsecondary Faculty. In all three

cases, NEH joins with other federal agencies in supporting these nationally significant projects, thus extending the reach of the program's funds. Funding permitting, the program is also able to support an occasional project that is specifically tailored to NEH needs.

The National Science Foundation serves as the lead federal agency for the two doctorate surveys. In each case, funds are awarded to the recipient (the National Research Council) under a sole source contract. In the case of the faculty study, the contract is administered by the U.S. Department of Education, with the recipient (the National Opinion Research Center) having been selected following a competitive bidding process.

Approximately \$75,000 of the FY 1996 request of \$650,000 is budgeted for the costs of new survey work. As noted in the budget narrative, these funds may be used to support an expansion of the Census Bureau's Survey of Public Participation in the Arts to include a humanities component.

Question. In the discussion of your administrative budget, you mention that funds are not included for the support work provided to the Institute of Museum Services. What support work are you referring to and how much is provided to you for this work?

Answer. An interagency agreement between NEH and IMS authorizes the Endowment to provide to IMS certain administrative services. Using its own staff and resources, NEH provides specific accounting, audit, automatic data processing, budget, equal employment opportunity, legal, administrative, and personnel services. This method of providing services is far less expensive than it would otherwise be for a small agency like IMS to create additional staffing, space, and equipment to perform the same services in-house.

Under the terms of the interagency agreement between the two agencies, IMS reimburses NEH for the actual cost of services provided. The estimated cost for these administrative services in FY 1996 is \$80 thousand.

Question. The recent Elementary and Secondary Education Act reauthorization contained an amendment to the National Foundation on the Arts and Humanities Act to increase to \$100,000 for FY 1995 the total amount allowed for official reception and representation expenses for the Chairperson of NEA and NEH. Where in your administrative budget do you include official reception and representation expenses?

Answer. In accordance with language traditionally included in our appropriations bill, we do not request or spend appropriated funds for reception and representation expenses. For example, the FY 1995 Department of the Interior and Related Agencies Appropriations Act (P.L. 103-332) states: ". . . none

of the funds appropriated to the National Foundation on the Arts and the Humanities may be used for official reception and representation expenses." Because of that prohibition, the Endowment uses only donated funds to pay for such expenses.

STATISTICS

Please provide a total amount obligated by NEH on a state-by-state basis in the most recently completed fiscal year. Totals should include grants from all divisions and programs; where matching funds have been approved, but not yet awarded, please list in a separate category.

Summary of Grants and Awards by State

Fiscal Year 1994

State	Amount Obligated 1/		
	Outright	Matching	Total
Alabama	\$710,732	\$218,971	\$929,703
Alaska	542,465	82,299	624,764
Arizona	970,430	302,377	1,272,807
Arkansas	976,081	217,300	1,193,381
California	12,288,925	1,710,854	13,999,779
Colorado	1,544,160	718,600	2,262,760
Connecticut	3,384,511	646,509	4,031,020
Delaware	749,600	961,769	1,711,369
D.C.	5,195,218	1,983,281	7,178,499
Florida	1,218,350	241,140	1,459,490
Georgia	2,117,123	209,779	2,326,902
Hawaii	1,284,483	51,300	1,335,783
Idaho	415,700	150,700	566,400
Illinois	8,080,091	476,518	8,556,609
Indiana	2,501,823	437,200	2,939,023
Iowa	900,852	97,675	998,527
Kansas	932,189	91,788	1,023,977
Kentucky	540,226	94,376	634,602
Louisiana	998,260	131,200	1,129,460
Maine	1,600,006	256,949	1,856,955
Maryland	3,148,699	604,636	3,753,335
Massachusetts	10,923,611	2,258,016	13,181,627
Michigan	3,255,817	638,587	3,894,404
Minnesota	2,216,761	656,300	2,873,061
Mississippi	912,599	132,477	1,045,076
Missouri	1,155,371	502,039	1,657,410
Montana	615,442	414,432	1,029,874
Nebraska	1,088,113	214,300	1,302,413
Nevada	423,635	67,700	491,335
New Hampshire	839,863	446,300	1,286,163
New Jersey	2,498,584	1,076,444	3,575,028
New Mexico	1,355,965	857,200	2,213,165
New York	20,100,172	3,525,457	23,625,629
North Carolina	3,299,122	606,325	3,905,447
North Dakota	649,200	67,900	717,100
Ohio	3,173,833	829,226	4,003,059
Oklahoma	832,131	77,400	909,531

Summary of Grants and Awards by State cont'd

Fiscal Year 1994

State	Amount Obligated 1/		
	Outright	Matching	Total
Oregon	1,808,760	558,115	2,366,875
Pennsylvania	4,721,879	762,385	5,484,264
Rhode Island	1,809,967	226,533	2,036,500
South Carolina	\$935,015	\$699,715	\$1,634,730
South Dakota	413,570	44,900	458,470
Tennessee	1,835,725	544,723	2,380,448
Texas	4,059,044	1,315,585	5,374,629
Utah	1,002,511	206,738	1,209,249
Vermont	936,345	142,600	1,078,945
Virginia	3,319,954	662,678	3,982,632
Washington	1,259,636	1,213,021	2,472,657
West Virginia	706,372	66,200	772,572
Wisconsin	1,766,421	271,612	2,038,033
Wyoming	422,700	35,317	458,017
American Samoa	29,945	--	29,945
Guam	233,000	10,000	243,000
Northern Marianas	241,700	5,000	246,700
Puerto Rico	479,300	83,500	562,800
Virgin Islands	324,600	945	325,545
Other 2/	208,034	93,053	301,087
Total	\$129,954,622	\$28,997,943	\$158,952,565

1/ Totals include definite, Treasury, and Challenge funds obligated for new grants, supplemental awards on previous years' grants, and program contracts. (FY 1994 obligations equal FY 1994 program appropriations totalling \$156.5 million, plus \$1.0 million in prior-year carry-over funds, plus \$1.1 million in program reimbursements from other agencies, plus \$312.8 thousand in prior-year deobligations.)

2/ Awards to American citizens residing overseas at time of award.

Note: Detail does not add to total due to rounding.

Please provide a table for the 1994 fiscal year that by program division lists the enacted level and FY94 matching funds (challenge and treasury) obligated. In those instances where fiscal year 1994 matching funds were approved, but not obligated, please list in a separate category.

FY 1994

<u>Definite Funds</u>	<u>Appropriated</u>	<u>Obligated*</u>
Education Programs	\$ 18,181	\$ 19,284
Fellowships and Seminars	17,719	17,719
Public Programs	25,309	25,309
Research Programs	17,852	17,849
Preservation and Access	23,058	24,085
State Programs	<u>28,204</u>	<u>28,204</u>
	\$130,323	\$132,451
 <u>Indefinite funds</u>		
Treasury Funds	11,963	12,076
Challenge Grants	<u>14,228</u>	<u>14,426</u>
TOTAL PROGRAM	\$156,514	\$158,953

*Totals include definite, Treasury, and Challenge funds obligated for new grants, supplemental awards on previous years' grants, and program contracts. (FY 1994 obligations equal FY 1994 program appropriations totalling \$156.5 million, plus \$1.0 million in prior-year carry-over funds, plus \$1.1 million in program reimbursements from other agencies, plus \$312.8 thousand in prior-year deobligations.)

QUESTIONS SUBMITTED BY SENATOR ROBERT BYRD

The FY 1996 request for the National Endowment for the Humanities totals \$182 million, an increase of nearly \$5 million above the FY 1995 enacted level. The increased funds are proposed to be used for a Technology and the Humanities initiative (+ \$4 million) and increased administrative costs (+ \$1.4 million).

EFFECT OF PROPOSED RESCISSION

Mr. Hackney, I would like to ask similar questions as posed to NEA regarding the effect of the \$5 million NEH rescission proposed last week by the Interior Subcommittee of the House Appropriations Committee. Such a reduction would reduce NEH funds in total to a level of approximately \$172 million.

Question. What NEH grant programs would be affected by a \$5 million rescission at this point in the fiscal year?

Answer. The NEH grant-making process is geared to the four annual meetings of the National Council on the Humanities, which, by statute, must advise the Chairman of the Endowment on all applications before a grant application can be approved for funding. To accommodate any rescission this fiscal year, we would have to cut money from the programs that are presenting grant applications at the only remaining FY 1995 Council meetings, that is, the May and August meetings. Possible reductions thus would include grants in our Summer Seminars programs, grants for brittle books microfilming projects in the Preservation and Access division, and reading and discussion projects in our Humanities Projects in Libraries and Archives program. We would also be forced to trim our Treasury matching funds budget, thus reducing our ability to leverage third-party support for humanities projects. The consequence of all these actions would be that the quality and reach of humanities programs for the American public would be severely affected.

Question. Are there some programs that will be affected by this rescission because of their timing in the grant cycle, rather than their merit? If so, which programs are most likely to be affected?

Answer. Absolutely. The timing of the rescission makes imposing a five million dollar cut this late in the year very difficult. As noted in the answer to the previous question, the Summer Seminars programs, the Preservation and Access division, the Humanities Projects in Libraries and Archives program, and Treasury funding matching program would be particularly hard hit.

Question. As with the Arts Endowment, the House has directed that \$1 million of the rescission be taken from your administrative areas. We are almost half way through the current fiscal year. What actions would you have to take to absorb a \$1 million reduction in your administrative budget at this point in time?

Answer. Traditionally, the Endowment has provided quality administrative services at the lowest possible cost. The implementation of streamlining measures over the past 2 years has enhanced our productivity even further. Thus, because our administrative operation is already lean and because one-half of FY 1995 has already expired, it will be very difficult to accommodate a \$1 million rescission, which represents nearly 5 percent of our FY 1995 administrative budget.

If a rescission of this magnitude were enacted, we would eliminate or postpone all lower priority administrative expenses, such as non-vital training, travel, supplies, and equipment. An immediate hiring freeze would be implemented and critical vacancies would be filled only by in-house candidates or not at all. Early outs have already been offered to eligible employees in the hope of realizing further staff reductions. The FY 1995 portion of NEH's computer modernization plan, which is part of a successful multi-year endeavor, would be scaled back considerably. If the aforementioned efforts do not generate enough savings to offset the rescission, we would have to resort to furloughing employees.

Question. Are there areas where you can make reductions (such as large equipment purchases, travel, contracts) without having to engage in a furlough?

Answer. Non-personnel reductions can be made in certain lower priority work, and that can help to absorb some of the rescission impact. For example, some non-vital training and travel can be cancelled or postponed. Similarly, we can cut back in supplies and defer replacing worn and dilapidated furniture. We can also interrupt our very successful multi-year ADP modernization project. We will again review our publications needs for further efficiencies, especially those resulting from the recent agency reorganization, but such savings will probably not be realized until future years. We can achieve some small savings from ADP equipment maintenance, but nearly all the rest of our contracts are for necessary services such as guard service in the building, health clinic services, and payments for the agency's one-half share of the annual cost of the President's Committee on the Arts and the Humanities. We have already restricted all hiring to in-house candidates and have offered early outs to eligible employees with the hope of reducing personnel

costs in FY 1995. But because the House rescission proposes nearly 5 percent of our total administration budget and because half of FY 1995 has already lapsed, it will probably not be possible to find \$1 million in cuts without resorting to some furloughs. Obviously, furloughs would be the Endowment's last recourse because of the adverse effect they would have on employee morale and customer service.

Question. Has the NEH participated in any of the government-wide buyouts? Do you anticipate doing so during the next month in order to help deal with the proposed rescission?

Answer. The Endowment has not offered any buyouts. Because only 6 months remain in FY 1995, any buyouts offered now would not result in lower costs for the remainder of FY 1995. In most cases, the buyout and related costs would at least offset, if not exceed, the separating employee's salary and benefit costs for the remaining 6 months of FY 1995. That is because the cost of the buyout includes the lesser of a \$25 thousand cash payment to the separating employee or severance pay plus an agency payment to the Civil Service Retirement and Disability Fund equal to 9 percent of the final basic pay for each employee who takes the incentive and voluntary early retirement under the Civil Service Retirement System (CSRS). A lump sum payment, if necessary, must also be paid for the employee's unused annual leave.

NEW INITIATIVES

(Technology Initiative)

The Technology and the Humanities initiative is intended to "... facilitate the inclusion of important humanities materials on the information highway and to expand Americans' access to and use of these materials."

Question. FY 1996 is proposed to be the first year of a three year effort in this regard. What is the total estimated cost of this initiative?

Answer. If fully funded, the budget for this three-year special initiative would total \$12 million. As the initiative unfolds, however, we plan to monitor it closely and to adjust its scope and funding as necessary.

Question. How do you view this emphasis on technology fitting in with the other program areas of the NEH? How will projects under this initiative be different from the regular programming activities of the NEH?

Answer. We expect projects supported through this initiative to complement the humanities projects we now support through our regular grant programs. Digital

technology is being used more and more in all areas of the humanities--education, research and scholarship, preservation, and public programming. The NEH initiative is designed to supply the financial incentive and, through our nationally recognized system of peer review, the leadership and coordination needed to create an expanded body of digitized humanities resources on the information superhighway and to increase access to these materials for more Americans. While projects will be supported primarily through our six broad programming areas, the initiative will also encourage applicants to develop proposals that go beyond our regular program boundaries and that involve creative, innovative collaborations among two or more divisions.

Question. What types of projects do you anticipate being funded as part of this initiative?

Answer. With the investment of strategically placed funds over the next few years, NEH would be able to encourage and support the following kinds of digital projects:

- A special program of grants focused on **"Teaching with Technology"** that would support projects to develop and field-test interactive educational software and innovative applications of existing software, all in digitized format, for use by teachers of humanities subjects at all levels. Awards would also be made to train faculty and teachers in effective classroom uses of electronic technologies.
- A coordinated and collaborative effort by the nation's libraries, archives, and museums to begin systematically converting humanities materials into digital form. These projects include components that would establish **standards and procedures** for the capture, storage, and preservation of humanities materials for future generations.
- A group of demonstration projects conducted at humanities institutions that would both document existing collections and interpret their thematic significance to the public by means of hypertext systems. An **additional series of projects** would use electronic technologies to extend the accessibility of exhibitions, films, and reading and discussion programs previously funded by the Endowment.
- A series of model projects that will explore the needs that future clients of the information superhighway will have for using digitized humanities **resources and reference works**. Such projects would focus on the software and protocols necessary to ensure that the resources meet the distinctive needs of

educators, public programmers, and scholars in the humanities.

Question. If additional funding, in total, is not provided to NEH, what is the priority of this initiative? Would you reduce other program areas in order to fund this effort? If so, why and which areas would you reduce?

Answer. This initiative would remain a significant priority for the Endowment at any budget level. If budgetary constraints prevent Congress from funding our full Technology and the Humanities request, we would still support some digital projects in our regular program divisions. At this time, however, we do not propose that funding be reduced or eliminated for other NEH programs to accommodate technology proposals. There are other equally critical areas of need in the humanities that the Endowment must continue to address, which are reflected in the proposed funding allocations for our divisions and programs contained in our FY 1996 appropriations request.

Question. To what extent has the Administration established priorities for the funding found in various agency budgets (NEH, Interior, Commerce, etc.) for the national information infrastructure initiative? What is the priority for the NEH component of this initiative compared to the other agencies?

Answer. We are not aware of the agency-by-agency priorities of the Administration's NII initiative. We would point out, however, that technology is important to NEH and that we think it is essential that the humanities not get left behind as the superhighway develops. The Administration shares this commitment, as illustrated by our inclusion in the NII initiative.

Question. How can the Committee be assured that duplication of effort is not occurring for the information infrastructure initiative?

Answer. The Administration has organized an Information Infrastructure Task Force, chaired by the Secretary of Commerce, which is coordinating NII activities. One of the purposes of the Task Force, of which NEH is a participant, is to ensure that there is no duplication of effort among the agencies that are participating in the NII.

(INTEGRATED K-16 PROGRAM)

In FY 1996, NEH proposes a new initiative in the education division is an initiative called "Integrated K-16 Projects". The purpose of this effort, which is funded at a level of \$1 million, is to encourage local schools and colleges in metropolitan areas to modify curriculum offerings to undergraduates and students in schools.

Question. What exactly is the purpose of this initiative? Why do you view this as a priority?

Answer. In recent years, the NEH Education Division has supported several regional collaborative projects to coordinate improvements in the secondary school curriculum with simultaneous revisions in undergraduate instruction at nearby institutions of higher education. Colleges and universities throughout the nation are beginning to act on the realization that, in their own best interest, they must be effective advocates for the quality of public instruction in the region where the greater part of their undergraduate students attend secondary school.

Integrated K-16 Projects will foster collaborations among the schools and colleges throughout a region or metropolitan area that strengthen the connections between high school and undergraduate curricula. The kinds of activities to be supported include joint school-college efforts to improve the undergraduate instruction of prospective teachers, the elaboration of regional articulation agreements that would seamlessly link high school and college foreign language instruction, and the development of synthetic, multidisciplinary approaches to undergraduate instruction in tandem with the introduction of more rigorous humanities curricula in nearby secondary schools.

Question. Why is an effort of this type the responsibility of the Federal government rather than local school boards and state departments of education?

Answer. The task of integrating K-16 education is obviously far greater than what we can accomplish with \$1 million. Reforming curricula in the schools is and will remain primarily the responsibility of state and local government. Even in those instances when the Endowment has supported efforts of this type, the grant recipients usually have been required to supply a substantial part of the total project costs from their own institutional resources and to match a portion of our award by raising additional funds from non-federal sources.

Nevertheless, by providing timely support and national recognition to several outstanding K-16 projects each year, the Endowment can exert a powerful influence on the national education reform effort. Throughout the country, educators at the state and local level are designing new curricular standards. We think substantive instruction in the humanities should have a central place in what emerges from that effort. Because our K-16 projects can serve as national models, their impact on the quality of teaching and learning in our schools and colleges will extend far beyond a single metropolitan area or region. In this way, a small NEH investment can help guide state and local education dollars to their optimally efficient uses. At present and for the foreseeable future, only the

federal government can call upon the resources of a nation--including a national pool of review panelists and grant applicants--to insure that replicable models of education reform are available and widely known.

Question. Given that NEH's budget is proposed to increase by \$5 million, and \$4 million of this is for the technology initiative, and \$1.5 million is for administration, what program areas are you taking funds out of in order to fund this K-16 program?

Answer. The funds will come from the Elementary and Secondary Education and the Higher Education programs, both of which have recently been supporting an increasing number of K-16 projects. By setting aside \$1 million in funding for a separate Integrated K-16 Projects competition, we hope to encourage an even greater number of grant proposals of this type. As has been our practice in the past, we expect to offer this special funding opportunity for a limited span of time, after which funding for these activities will resume in our two comprehensive education programs.

(FOCUS GRANTS)

Another new category of awards proposed for FY 1996 are so-called "Humanities Focus Grants", which are intended for small, on-site institutional projects with a simplified application and speedy review process.

Question. How much funding do you anticipate directing to this effort in FY 1996?

Answer. We plan to allocate \$550,000 for projects of this type in both the Elementary and Secondary Education and the Higher Education programs. That sum will support approximately 22 projects at about \$25,000 apiece in each of the two comprehensive programs.

Question. Will this be a multi-year program, or just one year?

Answer. Humanities Focus Grants are a new funding category, rather than an explicitly temporary initiative like the Integrated K-16 Projects program. Essentially, Humanities Focus Grants represent a consolidation of the functions previously served by Masterwork Study grants in the Elementary and Secondary Education program and by faculty study and planning grants in the Higher Education program, but with the addition of an expedited review process.

CONSOLIDATION/STREAMLINING

As part of government-wide efforts to streamline agency operations and achieve efficiencies, NEH is participating in the "reinvention" process. One of the most significant changes at NEH has been a series of organizational reforms.

Question. In addition to the changes that "clustered" programs of a like nature in the same divisions, what are some of the other major reinvention efforts underway at NEH? What benefits do you anticipate attaining?

Answer. The Endowment is undertaking a variety of initiatives to cut costs and improve performance, always keeping at the forefront the goal of serving our customers better. In the past two years we have:

- simplified our internal organization by removing one entire layer of senior management;
- implemented a customer-oriented, agency-wide total quality management program;
- instituted a strategic planning initiative;
- developed and published customer service standards for NEH;
- established employee teams to develop initiatives in the areas of incentive awards, employee training, and technology;
- sought to develop partnerships with other federal agencies and with nonfederal entities that have resources to support humanities projects;
- expanded our use of customer-oriented technologies such as voice mail and Internet bulletin boards; and
- taken concrete steps to simplify the materials we are sending to grantees while also reducing the amount of information we are seeking from them.

To cut costs further, we may consider the following streamlining initiatives: (1) integrating NEH's now-separate payroll and personnel systems and contracting this function out; (2) combining some common administrative functions that we share with the National Endowment for the Arts (e.g., merging our libraries); and (3) making greater use of technology to increase communication with and reduce paperwork demands on our customers. We hasten to add that our streamlining efforts to date have **already** yielded significant savings: For example, since FY 1979, the Endowment's FTE level has decreased from 296 to 262, a decrease of nearly 12 percent.

Question. As budgets tighten, it has been suggested by some that the Humanities Endowment, the Arts Endowment, and some of the other cultural programs funded by the Federal government be consolidated in order to achieve savings. What are your thoughts about such a proposal?

Answer. On the surface, proposals to merge various federal cultural agencies have some appeal. These agencies appear to share many common goals and often support programs that seem to overlap. But in fact, the two Endowments, the Institute of Museum

Services, and related agencies have distinct missions serving particular constituencies. These missions are carried out through programs that are consciously designed so that there is virtually no overlap. The museum programs of NEH, NEA, and IMS, for example, have "museums" common to their names, but each serves quite distinct purposes. They differ in the types of support they offer, in the goals they advance, and in judgments brought to bear on applications they receive.

We also note that as defined by Congress and by practitioners in the field, the humanities are in almost all respects quite different from the arts. The acts of creating and performing are distinguished from scholarly and educational activities in their vocabularies, in their methods of inquiry, and in their modes of presentation. In fact, a proposal to combine the arts and humanities would make little more sense than a proposal to combine NEH and the National Science Foundation--NSF, like NEH, supports research and education in a number of related academic disciplines, yet the humanities and sciences are so distinct in their approaches that no one would think to combine the two agencies.

Question. Within the NEH budget, nearly \$10 million is provided for humanities projects in museums and historical organizations. Some might argue that the NEH and NEA museum programs are duplicative. How would you respond to such suggestions?

Answer. Although both NEH and NEA support programs for the general public in museums of art, the purposes addressed by these programs are distinct. NEH supports exhibitions that focus on the interpretation of cultural works or historical figures and events from the perspective of the humanities. Most NEH exhibition grants go to history, anthropology, natural history, and science museums or to historical societies. Fewer than a third of these grant go to museums of art. NEA supports exhibitions of contemporary or historical works, the primary focus of which is on aesthetic appreciation rather than scholarly interpretation.

It is not unusual for the institutions that NEH serves to look to several federal agencies for different services. Universities, for example, receive funding from probably dozens of federal agencies. Both NEH and NEA provide a range of programs to meet the varying needs of museums. The staffs of the two agencies meet regularly to coordinate their efforts on behalf of museums and to prevent the duplication of functions.

Question. Are there aspects of the functions of the two endowments and the Institute of Museum Services that could be combined, particularly in the administrative area? What would you view to be the advantages and/or disadvantages of such a proposal?

Answer. As part of our streamlining efforts, we have been looking at all opportunities to restructure our organization, to realize a more effective operation that will cost less and improve customer service. Our accomplishments in this area have been substantial. For example, in the past two years we have eliminated one entire level of management; abolished a major programming division; and eliminated three lower priority programs.

Because the NEH, NEA, and IMS programs are different and because duplication of functions is minimal at most, we do not think it would be cost effective to combine any of the agencies' programs. However, we have begun to look at the possibility of combining some administrative functions in NEH and NEA. We have not yet conducted a feasibility or cost benefit analysis to determine whether or not merging any administrative functions would be advisable.

Because NEH provides administrative services to IMS according to the terms of an interagency agreement, the IMS would be affected by any NEH/NEA merger of administrative functions.

ADMINISTRATIVE COSTS

In FY 1996, your administrative budget is proposed to increase by approximately \$1.4 million.

Question. Are these increased funds required strictly for fixed costs (salary, rent, utilities), or are discretionary administrative items included in the estimate?

Answer. About \$.930 million of the administrative budget request is for cost increases that are largely beyond our control, or what we consider to be fixed costs. Most of that total is for higher personnel costs to cover the proposed 2.4 percent pay raise effective January 1996; to fund fully the additional 3 months cost of the 3.22 percent pay raise effective January 1995; for within-grade increases; for higher FERS costs as a higher percentage of staff becomes covered by the FERS retirement system; and for 1 more workday in FY 1996 than in FY 1995. The remainder is for GSA's 2 percent rate increase for space rental; for higher panel costs that will result from increased applications; for the Congressionally mandated publication of a State of the Humanities Report in FY 1996 (none required in FY 1995); for the full cost of a January postal rate increase of 10.3 percent; and higher costs for per diem rates, GPO printing services, and other general price increases for our existing level of services.

About \$125 thousand of the requested increase is to continue our essential multi-year ADP modernization effort. This increase would allow us to enhance our minicomputer hardware platform and our relational database as well as to improve some other agency

administrative systems. An additional \$30 thousand is requested to replace some worn and dilapidated office furniture and equipment.

Finally, we requested increases of \$125 thousand for data dissemination (Assessment Studies); \$135 thousand for 2 IPAs; \$50 thousand to provide administrative support for the proposed Technology and the Humanities special initiative; and \$30 thousand for travel funds to expand the Endowment's outreach activities. We consider these four items very important in helping to advance the agency mission.

Question. How much of the increase is for the fixed cost elements, and how much is proposed for outreach, data dissemination, and the technology initiative?

Answer. As discussed in the answer to the previous question, about \$.930 million of the \$1.419 million is for cost increases largely beyond our control.

The increase also includes \$125 thousand for data dissemination (Assessment Studies), \$50 thousand to provide administrative support for the proposed Technology and the Humanities special initiative, and \$30 thousand for travel funds to expand the Endowment's outreach activities to help ensure that our programs reach all areas of the country.

Question. If the requested increase is not provided, or your administrative funding is reduced below the base level, how would you distribute the reduction? What would be the effect on your personnel levels?

Answer. About two-thirds (\$.930 million) of the requested increase for administration is for cost increases largely beyond our control, as described in the answers to the last two questions. Such costs would occur regardless of whether or not funding is appropriated to pay for them.

Accordingly, drastic measures would be needed if at least \$.930 million of the requested increase is not provided. Our FTE usage would have to be reduced by about 10 below our OMB-approved level of 262. Certainly, hiring freezes, furloughs, and other measures would be required. Agency training and travel would also have to be reduced substantially, as would new equipment and supplies purchases.

If our total administrative request is not approved, we would also have to forego plans for increased data dissemination, more travel to enhance the outreach program, contracting for two IPAs, and administrative support for the proposed Technology and the Humanities special initiative. And, we would abandon the continuation of our ADP modernization project and the acquisition of some much needed replacement office furniture and equipment.

If the FY 1996 appropriation is enacted at a level that is below the FY 1995 amount, even further personnel reductions--including reductions-in-force--would be unavoidable. The magnitude of such a reduction would depend on the amount of the FY 1996 appropriation that is enacted.

FEDERAL ROLE IN THE HUMANITIES

Funding restrictions are being imposed on any number of different domestic discretionary programs in the current budget environment. Many are questioning whether it is appropriate for the Federal government to provide support for the humanities.

Question. To what extent are NEH grants matched by non-Federal sources? Do you receive at least at 1:1 match?

Answer. In FY 1994, the average NEH grant dollar was matched by \$1.30 in nonfederal contributions and institutional cost-sharing. With \$156.0 million in NEH funds, the recipients of our grants raised \$14.6 million in donor funds on a 1:1 matching basis and \$54.5 million in donor funds toward Challenge Grants awarded on a 1:3 or 1:4 basis, and they contributed approximately \$138 million from their own institutional resources toward the specific activity for which they were awarded NEH support.

Question. Are there special matching requirements imposed by NEH grant recipients who are receiving a second, or third, or multiple grant?

Answer. First-time recipients of a Challenge Grant must raise three dollars in nonfederal funds for each dollar of their NEH award. Recipients of subsequent Challenge Grants must generate four dollars in contributions for each NEH dollar. Challenge Grants support the long-term purposes of humanities institutions.

The Endowment also uses Treasury funds to award matching support for specific humanities projects. These kinds of matching grants always require fund-raising at a ratio of one to one. Since conventional matching grants support discrete projects, large institutions, such as universities, may receive a number of them over time, or even several simultaneously. Typically, matching funds for project support are awarded in tandem with an outright component. The outright part of the grant permits the funded activity to proceed while a fund-raising effort gets underway.

Only some of the kinds of humanities institutions that the Endowment serves possess the scale and the administrative resources to conduct a successful fund-raising campaign in response to a matching or Challenge award. However, most of our grant recipients contribute a substantial amount toward the total cost of their project.

Question. What do you view as the NEH role at the Federal level in support of the humanities that cannot (or will not) be accomplished at the state or local level?

Answer. The Endowment's role is to lead a national effort to advance scholarship and formal and informal education in history, literature, philosophy, and other disciplines of the humanities. The Endowment is an expression of our collective stake in the excellence of American cultural life.

Uniquely, the Endowment can draw upon the scholarly and educational resources of the entire nation to provide support and recognition to exemplary efforts across all fields of the humanities. Each year, approximately 1,200 academic specialists and other humanities experts from all parts of the country review the more than 8,000 funding applications that we consider. Another 5,000 specialists review proposals that we send them in the mail. In the end, fewer than 2,000 applicants are awarded funding in a national grant competition that is rigorously competitive. Like the community of American scholarship, the competition for NEH grants is not limited by the boundaries of any state.

Uniquely, the Endowment has the national scope to make possible outstanding humanities scholarship, education, and public projects whose benefits extend to the entire United States. Only a federal agency like NEH, with access to the nation's finest scholars and a critical mass of funding could coordinate and sustain large-scale projects like the national effort to preserve "brittle books" or the long-term research required to produce a definitive edition of George Washington's papers or the Sumerian Dictionary, or every summer offer the nation's school and college teachers opportunities to attend seminars and institutes on a range of humanities topics, or encourage the creation and growth of volunteer humanities councils in all the states.

The adverse effects of eliminating or significantly curtailing the Endowment would be felt immediately by American scholars, educators, and students, and by a broad public that includes the readers of serious books and audiences for cultural programs. The likely impacts of significantly curtailing the Endowment's role at the federal level in support of the humanities include:

- Cost-shifting. To the extent that state higher education systems, private colleges, school districts, public libraries, and museums rely on NEH funding to support essential functions, they would be forced to shoulder an additional burden in a lean time. For example, without NEH--the largest single source of faculty stipends for research in the humanities-- colleges and universities would have to come up

with more money for this purpose or allow the professional competence of their faculty to decline.

- Funding drop. Total national support for the humanities would undoubtedly contract. Very few of the institutions that we support are self-sustaining. In a typical NEH-funded project, federal dollars work in combination with private and state and local dollars. Overwhelmingly, our partners in this funding effort are telling us they could not take up the slack should the federal government cease contributing its share.
- Efficiency loss. At little cost to the taxpayer, the NEH grant review process identifies, not only the best projects in which to invest federal tax dollars, but also the optimally efficient uses for private contributor dollars. It is a measure of the credibility of our review system that private funds tend to flow to projects that receive an NEH grant.

MOST EFFECTIVE USE OF NEH DOLLARS

Mr. Chairman, the NEH has proposed a \$5 million funding increase in FY 1996. As you know, however, the Congress, in general, is in a "budget cutting" mode.

Question. As dollars become more and more constrained, what are your views on the most effective way to stretch limited NEH funds--should the number and variety of grants be continued, but at reduced levels; or should the number of grants be reduced in order to maintain grant funding levels at a meaningful level?

Answer. To absorb significant budget reductions, as suggested by the question, the Endowment would first establish broad priorities and, if necessary, radically reduce or even eliminate programs that are not crucial for meeting these priorities. In developing these priorities, we would broadly consult with the field and with Congress. To stretch funding, we would no doubt employ both methods described above: Some programs would lower their levels of support for projects while other programs would reduce the number of grants to maintain grant funding levels at a meaningful level.

ACCESS TO THE HUMANITIES

The budget includes a discussion (p. 7) about the efforts of NEH to broaden the place of the humanities in American life. Part of this strategy involves expanded outreach activities. The budget has indicated that NEH intends to encourage humanities constituents to develop projects and submit applications to the regular grant competitions.

Question. Is this type of technical assistance a normal part of the grant process for the regular programs?

Answer. The Endowment routinely distributes information to humanities institutions and potential grant applicants about the funding opportunities that we offer. Our outreach effort goes beyond that. It comprises a wide variety of means to insure that individuals and groups that have not often applied for NEH grants or participated in NEH-sponsored programs are made aware of what the Endowment has to offer. In recent years, our particular concern has been to reach rural, inner-city, tribal, and minority communities.

Outreach activities are conducted by the regular professional staff of the program divisions, with the direction and coordination of the Endowment's Deputy Chairman. These activities typically include conducting grant-writing workshops and providing special mailings for targeted groups, speaking about Endowment programs at the periodic meetings of constituent organizations and placing informational articles in their publications and journals, and encouraging prospective applicants among these groups to take advantage of the Endowment's standing offer to critique a preliminary application.

For example, our Public Programs Division is conducting workshops across the country to make people aware of NEH grants and to help them prepare successful applications.

Question. How does the NEH decide which areas of emphasis require additional outreach and which should be promoted through the normal grant process?

Answer. In FY 1996, we will begin developing annual division-level and Endowment-wide outreach plans. These annual plans will be informed by an intensified effort to gather data designed to identify constituencies that have not typically participated in NEH programs as much as others.

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

Chairman Hackney, I would like to address a question to you that I asked Chairwoman Alexander earlier this morning: in recent months there has been much talk surrounding decreasing funding for the Arts and Humanities, or eliminating this funding altogether.

Question. Can you tell me the implications for such measures, specifically, can the private sector replace what you do?

Answer. There is no evidence to suggest that the private sector could replace what NEH does, certainly not at the level of service in the humanities we currently provide for the American people. NEH is the single largest source of support for the humanities nationwide. Based on a study we did a number of years

ago, among the private foundations and corporate giving programs, only about 2 percent of total contributions went to the humanities. If one considers the level of support currently provided by foundations, the Mellon Foundation, the largest non-federal supporter of humanities programming, spends only about \$25 million annually on the humanities. We estimate that only about another \$25 million is contributed by other foundations, for a total of approximately \$50 million annually for the humanities. In FY 1994, in contrast, NEH obligated about \$159 million for humanities projects and programs. Were NEH to be eliminated, therefore, it would have an immediate and significant impact on the health and character of the humanities in this country. Moreover, there is no evidence to suggest that foundations and other potential private sector sources of funding would shift their contributions from other charitable areas to support for the humanities.

Question. "A National Conversation on American Pluralism and Identity" is an NEH program designed to begin a dialogue through small group discussions around the country about our feelings about one another as Americans, and how we fit into the global scheme of things. These conversations will then be reported back to the American people. How will the findings from these "conversations" be reported to the American people, and what kind of follow-up activities do you foresee in the future in response to those findings?

Answer. When many conversations have taken place around the country, the NEH will report to the American people on how the conversation went, what was agreed on, and what was still left to discuss. We have not decided what form this report will take, but its content will be largely determined by what conversation participants and project presenters report back to us. A project evaluation form has been included in each of the more than 1,000 Conversation Kits that we have mailed to a broad range of requesting individuals and organizations in all parts of the country. Follow-up phone calls will be used to elicit additional information about how the conversations are going. Finally, we have secured the services of a contractor who will help us to gather a range of programmatic and demographic data from conversation participants and presenters, both those who have requested a Conversation Kit and those who are conducting NEH-sponsored National Conversation projects with a Special Competition grant.

An NEH-funded film on the subject of the National Conversation is currently in production and will be presented to the American people on public television. The Endowment has long supported scholarship, teaching, and life-long learning projects on the subject of American pluralism and identity, and expects to continue doing so in the future. Although the specific activities we are supporting through this initiative

will take place over approximately an eighteen-month period, we have hope the "national conversation" continues long after, with or without NEH funding.

Question. Why do you feel the "National Conversation" is so important? What is your ultimate goal; that is, what do you intend to accomplish?

Answer. The National Conversation is based on the belief, expressed by Sheldon Hackney and many others, of varying viewpoints and persuasions, that we in this country have been paying too much attention to our differences and not enough attention to the things that hold us together. Americans feel the bonds of community weakening and society fragmenting in worrisome ways. We must find common ground if we are to recapture a confident sense of shared values that will let us then deal with divisive public policy issues with a common purpose in mind. What we hope to accomplish with the National Conversation is to use the humanities--literature, history, philosophy, and the like--to bring people of differing views and backgrounds together to explore what it means to be an American as we enter the twenty-first century.

QUESTIONS SUBMITTED BY SENATOR PATRICK LEAHY

Question. What is your reaction to proposals that the private sector be called to ask to help build an endowment fund? What size endowment would you need to support the amount you presently fund?

Answer. Assuming a rate of return of five percent, we estimate that an endowment of \$3.5 billion would be required to support our programs at their current levels. We believe that in the face of enormous pressures to reduce the deficit, a proposal to use federal funds to create an endowment this size would not be feasible. To put this figure in perspective, all the Federal appropriations for NEH during its entire 30-year existence total \$3.2 billion.

Similarly, the testimony offered by various foundation officials in recent months indicates that there is no likelihood that the private sector could step forward and provide the start-up funding necessary to establish an endowment of this magnitude. Accordingly, we think that this proposal is not a viable option.

Question. A large part of your mission at the NEH is to support "public humanities." Sometimes I think the Congress does not understand what the "humanities" are, let alone the "public humanities." Would you describe some of those activities?

Answer. NEH support for "public humanities" brings history, literature, philosophy, and other branches of humane learning to Americans everywhere. These activities help make life-long learning a possibility for adults who are no longer in school and

for young people outside of the context of formal education. Public humanities programs are an effective way to make the richness of our cultural inheritance accessible to all.

In FY 1994, public humanities projects sponsored by the Endowment included: 50 media productions that will result in 70 hours of television and 69 hours of radio reaching audiences totaling 244 million; 122 museum exhibitions at 256 sites in 40 states that attracted several million visitors; and book discussion programs that will reach 863 sites and 450,000 participants in all 50 states, the District of Columbia, and Puerto Rico. For example, during FY 1994:

- The NEH-sponsored documentary series, Baseball, was broadcast on national television to an audience of over 40 million. Produced by Ken Burns, the creator of The Civil War, the programs chronicled the history of the national pastime, its impact on American labor and business history, immigration, and race relations.
- "Africa," an exhibition sponsored by the Endowment at the Field Museum of Natural History in Chicago drew almost 430,000 visitors to an exploration of the continent's geography, history, and culture. Also during the year, "The Age of Rubens" was seen by 500,000 in Boston and Toledo; an exhibition of painter Jacob Lawrence's narrative series of works depicting African-American migration from the rural South to the urban North traveled to seven cities; and a ground-breaking retrospective of Frank Lloyd Wright's seventy-five-year career opened at the Museum of Modern Art in New York.
- The National Council on the Aging received a grant of \$139,000 for a series of reading and discussion programs on literary autobiography to be conducted in libraries and senior centers in Arkansas, Florida, Louisiana, Mississippi, and Texas.
- The Great Plains Chautauqua Society was awarded \$270,000 for "The American Writers of the Gilded Age," a week-long series of programs that will be presented in ten small towns in Kansas, Nebraska, Oklahoma, and the Dakotas. Literary scholars will portray the roles of Mark Twain, Stephen Crane, Jack London, Kate Copin, and W. E. B. Du Bois and conduct discussions with the audience.

Question. What do you think would happen to the NEH if the state councils received a larger percentage of your budget through a "block grant?"

Answer. We do not think that allocating a larger percentage of the Endowment's budget to the state

councils would improve our ability to serve the public. To begin with, the twenty percent allocation mandated by the legislative formula that governs the councils' share of NEH definite funds is a floor, not a ceiling--the current percentage is closer to twenty-two percent. The councils also are allocated a third of the Endowment's Treasury matching funds.

The councils may also compete for additional funding through the Endowment's other grant categories. Since the Chairman opened up the other divisions to the state councils last year, several states have already received sizeable grants and many more are preparing applications for the future. This is a new initiative of Chairman Hackney's to help the state councils receive more money if they have a better program than another institution. This ensures that precious federal dollars are spent wisely.

The Endowment and the councils are both very good at what they do, and to a large extent each complements the other. The councils help us extend the enjoyment and appreciation of the humanities to segments of the population that have traditionally had few opportunities to participate in cultural activities. The Endowment supports nationally significant scholarship and nationally outstanding program models that help the councils create projects of their own. In doing so, the Endowment draws upon the cultural resources of the entire nation. Whether local, regional, or national in scope, every project NEH supports is a winner in a highly rigorous grant competition that attracts applicants from throughout the United States. Proposals submitted in this competition are judged by panels of scholars and specialists drawn from institutions large and small in all parts of the country. The special strength of the state councils is local outreach. By working intensively with locally based organizations and groups--many not likely to submit competitive applications to a national grant competition--the councils can consistently reach communities that the Endowment might miss.

Although the functions of the Endowment and the councils are complementary, they are not interchangeable. The councils' first priority must be to serve local needs, and their efforts are necessarily limited by the cultural resources available within a single state. Consequently, no council or combination of councils is likely to provide major funding for costly, large-scale, or long-term projects whose benefits extend to the whole country--such projects, for example, as the NEH-supported television documentary series The Civil War, or The Great Depression; scholarly editions of the papers of Martin Luther King, Mark Twain, or George Washington; or the preservation microfilming of the Hoover Institution's collections of documents on the Russian Civil War, the American Relief Agency, and Russian refugees during the period 1919 to 1925.

Nor are the councils likely to match the kind of exacting grant review process that exists at the Endowment. Most of the funds that the councils receive from the Endowment are awarded according to the legislatively prescribed formula. Applicants for the regrant funds awarded by the councils within each state face a far less intense competition than do applicants for NEH grants; the councils typically support more than sixty percent of their funding applicants, while the Endowment supports fewer than 20 percent.

Allocating a larger portion of the Endowment's budget to the councils would necessarily increase the role of formula funding--and reduce the scope and rigor of merit competition--in the process by which federal support for the humanities is awarded. Inevitably, the quality of funded projects would suffer. Finally, it bears noting that, as private, nonprofit organizations, the councils are not accountable to elected officials or to the voters of the states. Increasing the councils' share of the Endowment's budget would also reduce the public's influence on the expenditure of taxpayer dollars for the humanities.

QUESTIONS SUBMITTED BY SENATOR PETE DOMENICI

The NEA and NEH are currently operating under temporary authority through appropriations law. A two year extension bill passed by the House and was reported by the Senate last but action on the extension was not completed.

Question. The Appropriations Committee could take the position that all programs not authorized will not receive appropriations. Have you been given assurances by the authorizing committees that you will be reauthorized this year?

Answer. We have already had a hearing before our Senate authorizing committee, and the committee has assured us that they plan to develop an authorization bill sometime soon. In the House, Chairman Hackney has had informal discussions with the committee's chair who has indicated that he will consider authorization hearings after the initial hundred days of the new Congress.

Question. Other than a simple Reauthorization, what other options are being discussed for the NEA and NEH, and have you taken a position of any of these?

Answer. Discussions on reauthorization are still at the preliminary stage, and so the Endowment has not taken a formal position of any other options for the cultural agencies. Some of the issues that are likely to be raised include NEH's relationship to the state humanities councils; the Endowment's authority to recover and to use income generated by grantees; the agency's authority to develop a true "endowment" fund; NEH's relationship with its sister agencies, the Arts

Endowment and the Institute of Museum Services; and the status of the Endowment in the nation's cultural and educational life.

THE EXTENT OF FEDERAL SUPPORT FOR ARTS AND HUMANITIES

Question. According to the Congressional Research Service, there are an estimated 200 arts and humanities programs scattered throughout various departments and agencies of the Federal Government for an estimated funding level of \$1 billion. Funding for the NEA and NEH constitutes .02% of the total amount of federal funding. Why do you think people use the NEA and NEH as reasons to question the federal role in the arts when they make up such a small portion of the funding?

Answer. We cannot presume to speak for the motives of opponents of NEH and NEA. We do not think, however, that our critics reflect the views of the many millions of Americans NEH reaches each year through its various programs. We must say that many of the arguments we have heard--for example, that NEH is elitist, that our grants lack sufficient political or ideological "balance," that the private sector would provide funding for the humanities if NEH were to disappear--all indicate that NEH needs to do a better job getting the word out about what NEH does and how the agency has served the American people over three decades.

Question. What would you say, from your standpoint, is the distinction between federal support for the arts and humanities through tax expenditures and direct grants?

Answer. Federal support for the arts and humanities through tax expenditures (assuming this refers to the tax deduction for charitable contributions) represents a highly decentralized approach that focuses on the individual as the locus of decision-making. In the absence of direct federal funding, "national" support for the arts and humanities simply becomes the aggregation of these individual decisions. Under this support system, we think that private donations would tend to go to glamorous, high-visibility projects rather than to such vital NEH-supported programs as Motherhead, summer seminars for school teachers, or the preservation of the nation's crumbling collection of books.

Federal support through direct grants, on the other hand, offers the opportunity to shape decisions based on national priorities. Congress, the Administration, and the humanities community work in concert to set those priorities, with federal grant programs then shaped accordingly. Often these programs serve to fill gaps left by individual givers, whose interests may not extend to relatively obscure (but significant) projects that currently benefit from NEH support.

THE EXTENT OF PRIVATE CONTRIBUTIONS TO ARTS AND HUMANITIES

Question. Both the Arts and Humanities Endowment legislation allow private contributions. How does this work?

Answer. The Humanities Endowment encourages private contributions in two ways: through the use of Treasury funds to match gifts made in behalf of specific humanities projects, and by awarding Challenge Grants designed to help institutions develop new sources of long-term support for the humanities.

Matching grants are awarded in most NEH programs. A matching "grant" consists of an offer of funding conditional on an equivalent amount of fund-raising by the awardee. A matching offer may comprise the entire amount of the Endowment's grant award, but more often it is combined with an outright award of definite funds. The outright portion of a "combination award" helps get the grantee's project underway while gifts are being raised in response to the accompanying matching offer. Through the matching mechanism, the Endowment has played an important role in the greater than three-fold, constant dollar growth of private giving for the arts and humanities in the U.S. since 1970.

In addition to supporting individual humanities projects, the Humanities Endowment--through its Challenge Grants program--works to strengthen the institutions that make these activities possible. NEH challenge grants help ensure the continuity and growth of the nation's cultural and educational resources by "challenging" humanities institutions to expand their bases of long-term support. First-time recipients of a challenge grant are required to raise three nonfederal dollars for each dollar offered by the Endowment, and recipients of subsequent awards must match their NEH offer with four dollars in non-Federal contributions. Challenge grants have proven to be a highly effective means of generating support for the humanities: In FY 1994, 87 institutions received \$14.4 million in challenge grants and raised \$54.2 million in non-Federal matching contributions, for a total investment in the humanities of \$68.6 million.

Question. I am told that the Arts and Humanities received approximately \$800,000 last year in private and in-kind contributions. Why do you think that figure isn't higher?

Answer. We are not sure of the origin or derivation of the \$800,000 figure, nor do we know what is counted in this figure. From the American Association of Fund-Raising Counsel (the publishers of Giving USA), we do know that in 1993 an estimated \$9.57 billion was contributed to "arts, culture, and humanities" by all non-Federal sources (foundations, corporations, and individuals). We also know that in 1993 the nation's 100 largest foundations awarded \$457

million in support of the arts and humanities, and that an estimated \$50 million in grants from an even larger sample of foundations was awarded in support of humanities projects in particular. And from the Endowment's own records we know that slightly more than \$200 million in non-Federal support was leveraged by NEH grants awarded in FY 1994 (\$69 million stimulated by NEH matching awards and an additional \$138 million provided by grantees as cost sharing).

What all these figures suggest is that the level of private support for the humanities is significant and, just as importantly, a substantial portion of this support is attributable to the leveraging effect of the Federal investment.

Question. Do you think people prefer to support projects and programs closer to home? What level of support exists for the arts generally?

Answer. Although we are not aware of any national studies of charitable behavior that can provide a definitive answer to the first question, our assumption is that the decision to make a charitable contribution is often driven by local interests. In varying measures, this is probably true of philanthropic foundations, corporate giving programs, and individual donors--the three major components of the independent sector.

Only a relatively tiny proportion of foundations (of which there are some 34,000 in the nation) have the resources or the mandate to fund programs nationally. Similarly, corporate giving programs tend to favor projects and causes that benefit the community in which the corporation is located, as the corporation seeks to give something back to the community in which its employees live. And individuals are also more likely to be motivated to give to a cause whose benefits are immediately apparent. In the aggregate, then, we suspect that (to borrow a phrase) "charity begins at home."

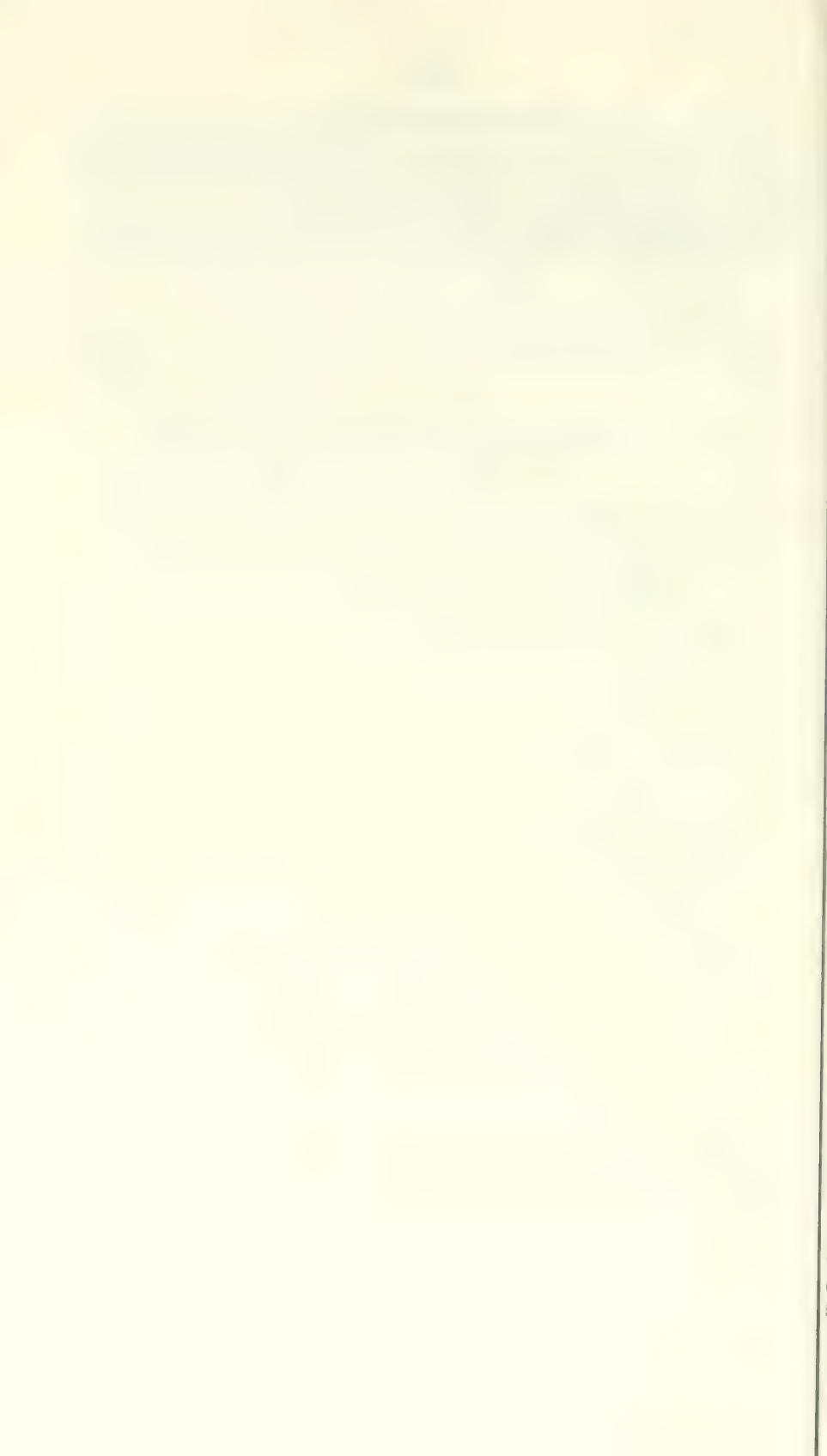
As to the level of support that exists for the arts and humanities generally, we know the following:

- In 1993 an estimated \$9.57 billion was contributed to "arts, culture, and humanities" by all non-Federal sources (foundations, corporations, and individuals).
- In 1993 the nation's 100 largest foundations awarded \$457 million in support of the arts and humanities.
- More than \$200 million in non-Federal support was directly leveraged by NEH grants awarded in FY 1994 (\$69 million stimulated by NEH matching awards and an additional \$138 million provided by grantees as cost sharing).

SUBCOMMITTEE RECESS

Senator GORTON. I thank you very much. The subcommittee will stand in recess until 9:30 a.m., Wednesday, March 8, when we will receive testimony from the U.S. Geological Survey.

[Whereupon, at 11:42 a.m., Wednesday, March 1, the subcommittee was recessed, to reconvene at 9:30 a.m., Wednesday, March 8.]



DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

WEDNESDAY, MARCH 8, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:35 a.m., in room SR-253, Russell Senate Office Building, Hon. Slade Gorton (chairman) presiding.
Present: Senators Gorton, Stevens, and Domenici.

DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

STATEMENT OF DR. GORDON EATON, DIRECTOR

ACCOMPANIED BY:

BONNIE MCGREGOR, ASSOCIATE DIRECTOR, PROGRAMS

BARBARA RYAN, ASSOCIATE DIRECTOR, OPERATIONS

WILLIAM GOSSMAN, ACTING ASSISTANT DIRECTOR FOR ADMINISTRATION

ROBERT M. HIRSCH, CHIEF HYDROLOGIST

JOHN D. TREZISE, CHIEF, DIVISION OF BUDGET AND PROGRAM REVIEW, DEPARTMENT OF THE INTERIOR

ALLEN H. WATKINS, CHIEF, NATIONAL MAPPING DIVISION

JOHN R. FILSON, ACTING CHIEF GEOLOGIST

BUDGET REQUEST

Senator GORTON. This subcommittee hearing will come to order.

We have scheduled for today the U.S. Geological Survey [USGS] budget request for fiscal year 1996. That request is for just under \$600 million, a 3-percent increase over 1995 and a modest increase in personnel.

Dr. Eaton, we have spoken informally before. We certainly welcome you here in what is clearly a dramatic year and time for the Geological Survey. You have a written statement, which has been filed with us. It will be included in the record as if read in full.

I would appreciate your summarizing what you have to say, with particular regard to the justification for the existence of the Geological Survey as an agency of the United States, what observations you may have, although we will go into more questions later, on whether or not there are any of its functions which might possibly be better conducted by the private sector and what functions

you are convinced are essential to the United States but would not be conducted by the private sector at all.

If you would give us a brief outline of your overall statement and a few comments on that subject, I would appreciate it. And then we will have a series of questions.

Dr. EATON. All right. Fine. Mr. Chairman, thank you for the opportunity to be here this morning.

Senator GORTON. Excuse me.

Senator Stevens.

OPENING REMARKS OF SENATOR TED STEVENS

Senator STEVENS. Mr. Chairman, I am going to stay and listen to Dr. Eaton, and then I am going to leave to go to another meeting which starts at the same time. I would like to submit some questions for the doctor to respond to on the record at the appropriate time.

Senator GORTON. Fine. Good. Thank you.

Go ahead.

INTRODUCTION OF ASSOCIATES

Dr. EATON. Let me share with both of you the fact that we are pleased to be here this morning. I have on either side of me my two associate directors, Bonnie McGregor on the right, who is the Associate Director for Programs, and Barbara Ryan on my left, who is the Associate Director for Operations.

Then seated behind me are the division chiefs of the Geological Survey, and I am going to plan to engage them in responding to some of the questions that you and Senator Stevens have posed.

Senator GORTON. Fine.

SUMMARY STATEMENT OF GORDON EATON

Dr. EATON. Let me begin by introducing Mr. William Gossman, who heads our Administrative Division, and then the Acting Chief Geologist John Filson; Chief Hydrologist Bob Hirsch; the Chief of the Mapping Division, Allen Watkins; and back there in the back row in the purple dress, Wendy Budd, who heads up our Information Systems Division.

Senator GORTON. Fine.

Dr. EATON. We are actually eager this morning, all of us, to introduce you to the new and quite a bit slimmer U.S. Geological Survey, and I will address that in the closing moments of this very abbreviated oral presentation.

It is important, I think, that the committee know that we have been working very hard to streamline the operations and staff and to reduce the cost of the Geological Survey. And I will be rather specific about some of that and ask permission to submit for the record the full body of facts concerning our streamlining efforts.

But I would like to begin by talking about a very large tax that Americans must pay every year to repair and rebuild after the Nation's repeated national disasters. They have now escalated to a cost level for the Nation on an annual basis of \$55 billion each year.

The Geological Survey plays a role in working to reduce that tax, even as it is climbing higher as a result of more and more people moving into disaster-prone areas.

And here, I am not just talking about the threats of earthquakes and volcanic eruptions, which both of you have in your respective States, but the coastal areas that received other threats and to major flood plains along principal rivers in the country that are subject to flood.

All of this is going up, and there is more and more competition on an increasingly limited water supply for a variety of very different kinds of competitive purposes. And all of those are issues that the Geological Survey deals with.

U.S. GEOLOGICAL SURVEY RESPONSE TO EMERGENCIES

We have been active here in the last couple of years in responding to earthquake, landslide, and flood emergencies in California, to follow-up work following the record flooding in the Midwest the summer before last, and to follow-up work to previous flood emergencies in both the Southwestern United States and in the Southeast.

Our work, as I hope you know, is widely credited with saving lives and property valued in the millions of dollars.

Let me just run quickly through a few examples of these things, if I might. A little more than 1 year ago, on January 17, Los Angeles was rocked by a magnitude 6.7 earthquake, which was approximately equal in size to the earthquake in Kobe, Japan just 2 months ago.

Although there were very significant losses in Los Angeles—in fact, it was the most costly single natural disaster this Nation has known—these losses were far, far below the 5,100-plus deaths in Japan and the \$100 billion of damage.

The lower losses in the United States came in part because of improved building design that directly incorporated knowledge gained from U.S. Geological Survey earthquake studies.

More recently, just a little more than 1 month ago, on February 3, 1995, a magnitude 5.4 earthquake occurred near Rock Springs, WY.

Our seismic network registered the signals from this quake, transferred them to the National Earthquake Information Center, which we operate in Golden, CO, and was then sent to the Union Pacific Railroad Dispatch Center in Omaha, NE.

The Union Pacific in turn stopped in their tracks, 24 trains in the region of the earthquake, while they went out and inspected the condition of the tracks of the road cuts and the road fills in order to prevent the possibility of damage and wrecks to the trains.

But we also immediately provided the basic maps that are so vital to the response teams in any emergency that this country knows.

For example, the Geological Survey provided more than 200,000 maps and digital data sets to aid in the recovery from Hurricane Andrew alone, 200,000, which was done on an immediate basis.

Hundreds of thousands of maps were also distributed in the wake of Hurricane Hugo, the Northridge earthquake, and the Mississippi Valley, Southwest, and California floods. And we did the

very same thing for civil authorities during the Los Angeles riots of several years ago.

Senator GORTON. What was the intensity of the earthquake I felt at home about 4 weeks ago?

Dr. EATON. Let me ask Dr. Filson.

Dr. FILSON. About a magnitude of 5.

Senator GORTON. Thank you.

VOLCANO INVESTIGATIONS PROGRAM

Dr. EATON. I think one of the facts that is little appreciated by many people of the United States, but not by either of you, is that this country has 60 active volcanos. Fourteen of those are in the three Pacific Northwest States, including northern California. Three more are in Hawaii.

And, Senator Stevens, you own all the rest of the active volcanos. [Laughter.]

Senator STEVENS. All the rest?

Dr. EATON. When one reawakens, as they do from time to time—for example, Mount St. Helens near Portland, Mount St. Augustine near Anchorage, Mount Ranier near Seattle, or Mauna Loa near Hilo—the Nation immediately needs the expertise and the experience of the Geological Survey.

The Defense Department also calls on that expertise when military bases around the world are threatened by natural hazards. And a prime example of that, I think, is that we worked with Philippine colleagues to predict the violent eruption of Mount Pinatubo in the Philippines in 1991.

We convinced the commanding officer of Clark Air Force Base to redeploy 18,000 American military personnel and dependents.

And many tens to hundreds of millions of dollars worth of aircraft and other property were also moved in time, so that not a single aircraft was lost, even though there was extensive blanketing of ash and the collapse of buildings on Clark Air Force Base as a result of that eruption.

Our program has also taken on a new role with the Federal Aviation Administration to help locate and track dangerous volcanic ash clouds of the sort that nearly brought down a KLM airliner that was about to land in Anchorage just a few years back.

These ash clouds are not detectable by radar, and they threaten international air travel, particularly in the northern Pacific corridor, the principal routes from Asia to North America, the polar route from western Europe to North America.

U.S. GEOLOGICAL SURVEY WATER PROGRAMS

As I think probably both of you know, we are usually the source of primary data behind the flood predictions that you hear on TV. We operate a water data network across the Nation that provides flood information for the National Weather Service and other management and disaster areas.

[Pause.]

Dr. EATON. The USGS Water Network also makes many of the water quality determinations used by State and local governments.

As the Nation's largest collector of water information, the U.S. Geological Survey documents the improvement or degradation of water quality over time. Our National Water-Quality Assessment Program is the only truly ongoing national analysis of the quality of this Nation's water.

The NAWQA Program represents the ultimate in a team approach and melting pots of disciplines, agencies and needs that has produced much more than the sum of its individual parts.

Through all these efforts, the USGS detects pesticides like DDT, which is still in the food chain, in the soil and in the water, despite the fact that the sale of DDT was banned 20 years ago, agricultural chemicals, herbicides and a multitude of contaminants, including fuels spilled or dumped.

In many cases, our scientists are able to develop remediation technology to help clean these contaminants from the water and to help water managers reduce the cost of maintaining the quality of that water.

U.S. GEOLOGICAL SURVEY REIMBURSABLE PROGRAM

Much of the work that we do is done in partnership with others, and these partnerships produce savings to the taxpayer by avoiding duplicate efforts and by providing consistent science that has technology transfer capability and that can be used tomorrow in other locations.

We have concluded that we must be doing a few things right, because dozens of Federal agencies and more than 1,100 local and State agencies think enough of the value of our work to provide \$300 million in funding to the USGS each year. So one-third, a full one-third, of our operational budget comes from other sources.

Almost all of these customers are repeat customers.

Senator GORTON. Payment for services—the specific payment for specific services.

Dr. EATON. Yes, indeed.

In effect, by doing this, we are constantly testing our science out there in the real world, addressing practical problems that others have a responsibility for dealing with.

We hope that all of you on the committee might have the same confidence in the importance of our work that these 1,100 agencies, representing all 50 States, a host of Federal agencies and, in fact, a number of foreign countries have demonstrated.

Clearly, the U.S. Geological Survey work and information is valued by partners all around the world.

We are proud of the good science, the practical science, that we provide the Nation, but we are equally proud of our efforts in the past year to respond to the need to reduce the size and cost of the Federal Government.

We are determined that the American taxpayer will realize full value for the investment of tax dollars and for the trust they have placed in both the science and in the management of the Geological Survey.

MANAGEMENT ACCOMPLISHMENTS

In this regard, let me just very briefly describe some of the management accomplishments that we have achieved over the past year.

I asked for and empowered the U.S. Geological Survey employees to seek ways to reduce the size of our organization while maintaining the level and quality of the science. And with their help since 1993, we have reduced permanent USGS staff by 1,130. That is a reduction of nearly 11 percent.

We have reduced the number of positions in the Senior Executive Service in the Geological Survey, by 42 percent. We have eliminated all six assistant director positions.

We formerly had six assistant directors and one associate director. That work is now being done largely by the two women seated on either side of me, a reduction from six or seven to two.

We have reduced the number of personnel specialists to the Department's target of one personnelist to 100 employees, and we did that 5 years ahead of the planned schedule. We have eliminated one entire layer of management in two of our operating divisions.

I have reorganized the Office of the Director and established a strategic planning function. We have eliminated 8 programs; we have reduced the funding in 13 more programs.

We have refocused 16 other programs to better address current needs and we have consolidated 14 programs in order to reduce overhead.

And with your permission, Mr. Chairman, I would be pleased to elaborate on these efforts for the record.

Senator GORTON. Well, I would like you to tell me whether or not you think that it has caused a deterioration of the quality of work you do, or has it, in fact, actually helped?

Dr. EATON. I think it certainly has not caused any deterioration in the work we do. We have had to move a few people around because some specialists, who we would rather have not seen go, chose to take advantage of the buyout opportunity and go.

But I think we have enough depth in all three operating divisions that we have been able to fill in pretty easily behind those.

I think we have moved in this digital age to doing some things electronically that used to be very people-intensive, and in that regard, I would say we have improved the performance of the Geological Survey in the face of this reduction in the work force.

It is very important that you understand that many of the savings that will result from these actions will accrue over the longer term.

There are some immediate costs related to downsizing that quickly eat away in the first year after the downsizing and any savings you might hope to accrue immediately. These are the costs of downsizing, providing the benefit of the buyout package, accumulated leave, things of this general nature.

Much of the savings that we have been able to realize, even in these first couple of years, are being reinvested. This is for field work, for scientists who have been unable to get to the field because of limitations on the budget, and the upgrading of scientific equipment and infrastructure.

As we have worked very hard on disasters over the last several years to help the local agencies help alleviate the toll they take, we have had a toll taken on our equipment and on our budget for travel expenses, because these things are not foreseeable in almost every case.

TEN-YEAR BUDGET PROFILE

I have provided to members of your staff a 10-year profile of our budget, and in constant dollars, our budget has gone down 12 percent since 1992. And over a 10-year period in constant dollars, the budget that we are seeking this year is the lowest of any of the budgets in the previous 9 years.

The impact of the decline that we have experienced in the budget, coupled with the necessity to absorb costs associated with significant natural disasters, is going to continue, I think, to limit our financial flexibility.

We have asked for a slight increase, as you noticed in your opening remarks, in our 1996 budget, in part as an effort to play to catch up to the past erosion of the budget.

It also represents a small reinvestment that is crucial to our mission and the higher priority that the Nation is placing on science to maintain economic growth and reduce the high cost of natural disasters and water pollution.

FISCAL YEAR 1996 PROPOSED INCREASES

The proposed increase, \$14.9 million, will support increases in four high priority scientific programs and one management streamlining effort, and we would be happy to talk about those in detail.

The first is a request of \$5.3 million to bring the National Water-Quality Assessment Program [NAWQA] back to full implementation. Owing to budget cuts in the current year, we have to throttle back on moving forward with 5 of the 20 study areas that were designated to begin in 1994. Some 15 continue; 5 have been effectively tabled.

The level of activity in those five is minimal, and we want to get those back up to full strength, because this program has already racked up some outstanding successes across the country. And I hope we can explore this, if you are interested in further detail.

Suffice it to say, the Nation as a whole has spent more than \$540 billion on water pollution control. Our NAWQA Program represents a very small but strategic investment to judge the effectiveness and needs for future control efforts.

In fact, compared to what the Nation has spent on pollution control, the annual cost of this program, the National Water-Quality Assessment Program, represents one one-hundredth of 1 percent of what the Nation has spent on pollution control.

Our other requests for increases include \$5.2 million to increase the availability of digital map data, with a focus on enhancing partnerships with the States and also with the private sector; \$1.2 million to improve earthquake preparedness, specifically in urban areas where we have, I think, some splendid ideas about how we can help reduce further the damage and loss of life; \$3.2 million to undertake seafloor mapping studies in national marine sanc-

tuaries and to improve wetland restoration activities in both south Florida and in San Francisco Bay.

We are also requesting \$1 million to support the implementation of the Interior Department Electronic Acquisition System. And this is an investment for which we fully anticipate seeing large returns.

So it is a one-time cost here to add 12 FTE specialists in the maintenance and operation of this system. This improved system will be used throughout the Department of Interior for electronic commerce and related procurement procedures, achieving significant savings in the long run.

The USGS budget represents a modest increase above the 1995 enacted level to provide information that the Nation clearly needs, but I want to point out to all of you, as I said 1 minute ago, that it is still significantly below the 1994 enacted level.

I believe this budget represents an investment in the future of America, an investment to give the American people information that they vitally need for a variety of purposes and the return of their investment that they so obviously deserve.

I believe, Mr. Chairman, that the work of the USGS serves every citizen, every day, in the water they use, in the energy and mineral resources they consume, in the reduced cost of natural disasters, and in the basic maps of all kinds that are blueprints to future economic growth in this Nation.

PREPARED STATEMENT

As I noted earlier, more than 1,100 organizations from all 50 States have voiced their confidence in us with their partnership dollars. And I hope that you and the committee will have the same confidence in the value of the work that we do.

This concludes my opening remarks. As you have noted, we have submitted written testimony for the record. We would be pleased now to answer any questions you might have.

[The statement follows:]

STATEMENT OF GORDON EATON

INTRODUCTION

Good morning, Mr. Chairman. We are pleased to be here this morning to discuss with you the FY 1996 budget request for the U.S. Geological Survey (USGS). Our budget request reflects emphasis on the programs that we feel are most important for FY 1996. Let me begin by saying that we are painfully aware that these are times of great fiscal restraint for all Federal agencies. You need to know I am also committed to organizational change and streamlining, and I will share with you the changes I have already made and will continue to make in the Survey. Also, because there has been some questioning of the continued need for the USGS, I appreciate this opportunity to review with the Subcommittee some of the important National issues that this bureau addresses. We are proud of our contributions to the public health, public safety, and economic well being of the American public.

The USGS has a 116-year history of assisting the Nation with its earth science and resource information needs. Because our authorities and responsibilities lie with the Nation as a whole, we can look dispassionately at natural resources that cross political boundaries and serve as a source of unbiased earth science knowledge that is useful to all levels of government. I want to ensure that our science is relevant, fills National needs, and is customer focused. The need for a National earth science agency is clear. Americans face many crucial issues that require reliable, objective earth science information, and knowledge provided by the USGS. The fundamental mission of the Geological Survey is to ensure the availability of policy relevant earth science, data and information for the Nation, in partnership with Federal, State, and local entities.

I believe it is critical that we recognize the important characteristics of earth science knowledge as a public good. Everyone in the country is a beneficiary of earth science information. It is being used to protect and improve the health, safety, and economic well being of our country's citizens. Indeed, as Thomas Jefferson once noted, the care of human life is the legitimate object of good government. I am firmly convinced that the work we do -- from the maps we make to the water quality we measure -- better the lives of every citizen every day.

Who else might do this work? The private sector will not, by itself, produce or ensure consistent, accurate information at the appropriate level without government intervention and funding. As we saw in the case of the commercialization of Landsat data through EOSAT, the data became too costly. That venture consequently failed but the data was still needed. The USGS has reassumed its role in distributing remotely sensed data.

The American people need a core of scientists to provide a dispassionate and objective stance, especially when the Nation faces controversial decisions. Without such unbiased knowledge and information, we endanger the safety and health of our people and we will spend America's precious resources far less wisely. The USGS is well positioned to provide the leadership and infrastructure necessary to ensure the availability and accessibility of earth science knowledge for a broad range of users. We provide a focus that allows Federal, State, and local governments, as well as the private sector, to avoid duplicative efforts.

BUDGET REQUEST FOR FY 1996

The USGS budget proposed for FY 1996 totals \$586.4 million, an increase of \$14.9 million over the 1995 enacted level, but \$10.6 million below the 1994 level of \$597 million. Within this total, a large number of program redirections are

included to ensure that USGS studies and data collection efforts are addressing the most important issues of today and meeting the needs of policy and management officials across the Nation.

The budget continues much of the research and data collection activity that has defined the USGS over the years, but the emphasis within our programs is being strongly focused on multidisciplinary studies to address the most critical issues facing the country today. USGS programs can be viewed in four major areas of emphasis: *Natural Hazards, Environment, Natural Resources, and Information and Data*. For FY 1996, the budget structure is modified slightly to reflect the changes in the Director's Office and modifications in nomenclature in some of our program titles. Funding changes proposed for FY 1996 include: (1) +\$5.2 million to expand the availability of digital map data and to support the development of partnerships with State and local agencies and private concerns to further advance the collection of basic framework data (roads, elevation data, streams and rivers, etc.), and for clearinghouse activities to support the distribution of this information through the National Spatial Data Infrastructure (NSDI); (2) +\$1.2 million to upgrade and improve earthquake preparedness in urban areas, including installing improved detection equipment and telecommunications links with emergency preparedness and transportation officials, and to conduct focused field investigations where data gaps exist; (3) +\$3.2 million to undertake studies and mapping of the seafloor environment in at least three national marine sanctuaries--the Florida Keys; Monterey Bay, offshore California; and Stellwagen Bank, offshore Massachusetts, and additional work aimed at improving wetlands restoration activities in South Florida and San Francisco Bay. The marine studies would be undertaken in partnership with NOAA and would meet the Nation's need for geologic information on the seafloor environment in these high priority areas; (4) +\$5.3 million to bring NAWQA to near full implementation. NAWQA is the first truly National assessment of the quality of America's waters ever to be undertaken. With this increase, NAWQA will: prepare reports for the 20 study units that were started in 1991; resume assessment activities for the five study units that were prematurely terminated in 1995; begin intensive data collection activities in 15 study units; and continue national synthesis activities for nutrients, pesticides, and volatile organic compounds; (5) +\$1.0 million for the Washington Administrative Service Center, operated by the USGS for the Department, to allow accelerated implementation of electronic commerce throughout the Department.

A decrease of \$4.6 million is proposed to discontinue funding for the 54 State and Territorial Water Resources Research Institutes. The decrease will result in elimination of financial assistance for about 600 undergraduate and graduate students and 200 research projects. About one-third of the 55 institutes receive all or most of their funding from Federal grants.

MANAGEMENT IMPROVEMENTS, STREAMLINING, AND DOWNSIZING

As part of the President's Reinventing Government Initiative, all Federal agencies are reexamining their mission, and as I have indicated, we are not an exception. Additional related activities include: addressing the mission based on "customer" input; asking whether the need can be met without Federal involvement; looking for ways to cut costs or improve performance through competition; and ways to put customers first, cut red tape, and empower employees. We are participating in this effort and want to keep the Subcommittee apprised of our review. We are streamlining operations and downsizing our organization, and concurrently seeking better methods for providing the earth science information that is critical to people all across the Nation. The USGS has traditionally maintained a lean management and

administrative support structure to assure that available resources are provided to directly support our scientists. Even so, we have continued to look at our programs and our support functions to eliminate those that do not meet a current need. Let me illustrate with some examples: since FY 1993, USGS has eliminated 6 programs for a total savings in budget authority of \$10.5 million; we have reduced the funding in 13 programs; 16 programs have been refocused to better address current needs; and we have consolidated 14 programs to reduce overhead and make them more effective and responsive to current needs. We are also looking for ways to improve our management.

Implementing improvements in management, communication, and information sharing and outreach

We have undertaken a major study of our method for distributing USGS products under the auspices of the "National Performance Review", and we are currently in the process of implementing many of the recommendations of that review. One of our most important guiding principles is to increase our responsiveness to our customers, and this distribution system is a major focus in that area.

Management and administrative savings and improvements have been ongoing for some time in USGS, but in the past year, major changes have occurred including:

- ▶ a reduction in employment of 1,130, or 10.6 percent since January of 1994;
- ▶ a 42 percent decrease in the number of Senior Executive Service positions within the Survey;
- ▶ implementation of a reorganization of the Director's Office that was recommended by a team of employees brought together from all parts of the organization and all areas of the country to improve bureau management practices;
- ▶ elimination of all six Assistant Director positions;
- ▶ reduction of the numbers of personnel servicing specialists throughout the Survey, to achieve, and in fact exceed, the targeted ratio of 1 personnelist for 100 employees 5 years ahead of schedule;
- ▶ management and supervisory positions being reviewed throughout the Survey, and at least one level of management being completely eliminated in two of the Survey's program divisions; and
- ▶ a special study team completing options for consolidating the Administrative and Information Systems Divisions into a single Support Services organization.

Additional changes will be made as reports from other special study teams, appointed to address specific issues are provided. We also have in place a process for the continuing review of our programs, functions, and operations to identify and evaluate further opportunities to effect change (e.g., commercialization, privatization, transfer, elimination, or enhancement).

MAJOR USGS CONTRIBUTIONS

Let me share now a few situations where the USGS in the past has played a critical role in responding to very significant National problems. I will also

describe some future scenarios and situations in which the USGS will clearly be needed to address National concerns.

Hazards

The USGS has a particular charge to help the Nation understand, prepare for, and respond to such natural disasters as earthquakes, eruptions from volcanoes, landslides, floods, subsidence, and tsunamis (ocean tidal waves). Our ability to assist the U.S. with natural disasters comes from our unique combination of earth science expertise. All of the different organizational units within the USGS contribute important elements to the Nation's response to potential natural disasters, disasters which have totaled approximately \$50 billion per year for the past few years.

National map coverage is vital because many of these natural disasters can occur anywhere in the country. When natural disasters occur, the USGS acts immediately to provide maps and data to Federal, State, and local emergency response organizations. More than 200,000 maps and digital data sets were provided to aid in the recovery from Hurricane Andrew alone. Hundreds of thousands more were provided in the wake of Hurricane Hugo, the Northridge earthquake and the Mississippi Valley and California floods. In the case of Hurricane Andrew, USGS space imagery provided a basis for directing the Federal Emergency Management Agency (FEMA) to the areas of greatest damage first. The USGS maintains special stocks of maps and geographic information, as well as special response teams on call 24 hours a day, to ensure that vital information can be made available immediately. Natural hazards occur unannounced and therefore need rapid response. USGS expertise and experience that is used to minimize and mitigate natural hazards cannot be recreated overnight.

Earthquakes

The United States experiences average annual earthquake losses of about \$5 billion. On January 17, 1994, Southern California was rocked by a magnitude 6.7 earthquake centered about 18 miles northwest of downtown Los Angeles. The California earthquake was about equal in magnitude to the devastating Kobe, Japan, earthquake that occurred on January 17 this year. Although the Northridge earthquake was the most costly in California's history, killing 57 and causing an estimated \$30 billion in damage, southern California losses were significantly less than the about \$100 billion and more than 5,100 deaths suffered in the Kobe earthquake. The lower losses in the U.S. came, in part, because of improved earthquake design incorporating knowledge gained from U.S. Geological Survey earthquake studies.

The USGS contributed directly to the successful performance of the Los Angeles Dam during the Northridge earthquake. The Los Angeles Dam was built to replace the Lower Van Norman Dam, which failed during the 1971 San Fernando earthquake, threatening catastrophic inundation of a residential area of 80,000 people. The replacement dam was built according to a stringent seismic-design based on USGS analyses of earthquake ground shaking. Although the replacement dam was subjected to earthquake shaking much greater than those recorded in 1971, the Los Angeles Dam did not fail.

The U.S. Geological Survey and the seismological community at large are extremely concerned that other potentially damaging earthquakes will occur in Southern California in the near future. Indeed, we are particularly concerned about the possibility of large earthquakes on the southern San Andreas fault near San Bernardino and Palm Springs.

About one month ago, on February 3, 1995, at 8:26 a.m., a magnitude 5.4 earthquake occurred near Rock Springs, Wyoming. The seismic waves from this event were picked up by the seismic stations of the USGS national seismic network and the University of Utah. These signals were transmitted to the USGS National Earthquake Information Center where an alert message was sent to the Union Pacific Railroad dispatch center in Omaha. The Union Pacific stopped 24 trains in the region until the tracks could be inspected for damage. There are two notable achievements here. The technical achievement of recording, transmitting, analyzing, and broadcasting earthquake information, entirely automatically, Nationwide. Secondly, the achievement of cooperation between the government (USGS), industry (Union Pacific), and academic sectors (state universities). Working together we are creating a modern and reliable seismic alert system that works efficiently and effectively to protect human health and safety. In addition to carrying passengers, many of these trains carry hazardous materials.

Earthquakes are not simply a California problem. Figure 1 shows the earthquake hazard for large metropolitan areas. Three magnitude 8 earthquakes occurred near New Madrid, Missouri, in 1811 and 1812. These earthquakes devastated much of the Central Mississippi Valley and were felt throughout the eastern United States. A future strong earthquake in this area would cause extensive ground failure, rupture gas pipelines, heavily damage the numerous older buildings in the region, and disrupt natural river courses.

EARTHQUAKE HAZARDS IN LARGE METROPOLITAN AREAS

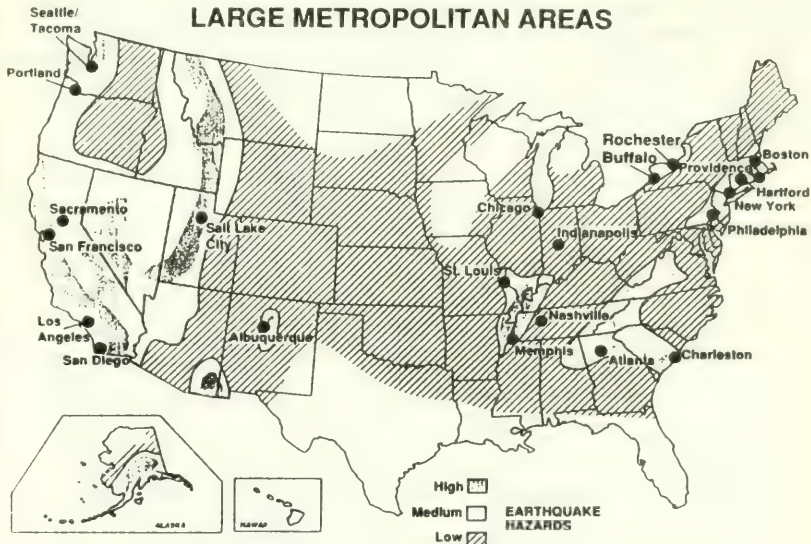


FIGURE 1

Potential earthquakes in highly urbanized areas demand forward-looking policy and planning decisions based on sound understanding of the earthquake threat. We are working on a number of fronts, from preparing special newspaper inserts in earthquake-prone areas to developing training for civil engineers on a National basis. As time passes and more earthquakes occur, the USGS will be needed for this analysis. We feel strongly that we have served the Nation very, very well in this area.

I am not alone in holding this opinion. Donald Anderson, seismologist at the California Institute of Technology and former President of the American Geophysical Union, one of the Nation's most prestigious scientific societies, recently said of the USGS:

"They tend to be extraordinarily good in their science. I think taxpayers are getting their money's worth from the Survey, and I wouldn't say that for any other government agency."

Floods

Flooding is one of the most destructive and costly kinds of natural disasters in the United States. For example, the flood of 1993 in the Upper Mississippi River Basin caused widespread devastation. The human and economic costs were estimated at \$16 billion. Data were provided continuously to the National Weather Service and the U.S. Army Corps of Engineers and were the foundation for flood forecasts that allowed people and personal property to be evacuated from areas about to be inundated. During the Mississippi floods, USGS field personnel made more than 2,000 visits to streamgages to make field measurements and to verify that equipment was working properly. Many of these visits were during the middle of the night under extreme weather conditions.

Again, on January 4, 1995, heavy rains began to fall throughout much of California. For the next 10 days the rain continued, causing significant flooding in many parts of the State. But from the time the rains began, data on the rising flows in the State's rivers and streams were being sent to the National Weather Service, the U.S. Army Corps of Engineers, and many State and local emergency-response officials. Information from some 300 USGS streamgaging stations throughout California was used by these agencies to alert the public, to direct dam-control measures, to coordinate evacuation efforts, and to assess damage.

The USGS collects streamflow information on a continuous basis at more than 7,200 streamgages Nationwide (Figure 2). Three thousand of these gages form the core of the National Flood Forecasting Network. The costs of operating the

ACTIVE SURFACE WATER DATA COLLECTION SITES OF THE USGS (Over 7200 Sites)

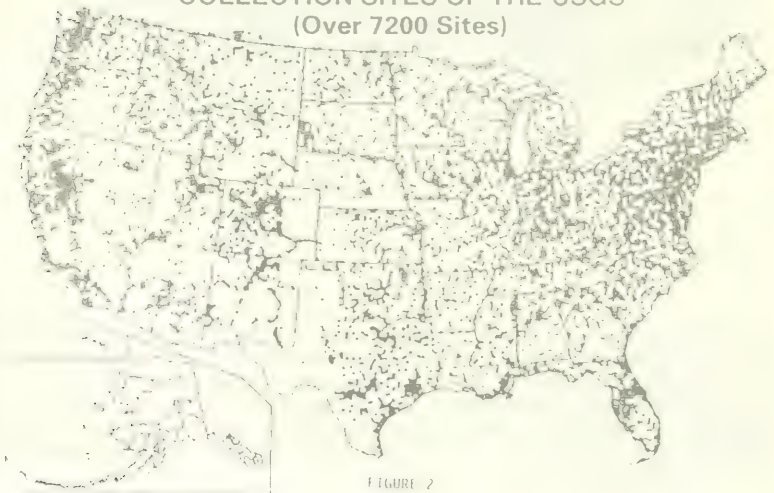


FIGURE 2

network are shared by more than 600 agencies. But the consistency and credibility is maintained through standardized USGS instruments and operating procedures. Without this network, critical streamflow data for flood warning and many other vital water resources needs would not be available.

Without the long-standing gaging station network and well-developed communications systems, accurate forecasts could not have been made and loss of life and damage to property would have been far greater than it actually was. The USGS met the unprecedented demand for water information because we could mobilize a work force from offices throughout the country trained in standard measurement techniques and thoroughly familiar with the field equipment in the flooded areas. Neither individual States nor the private sector have the capacity to provide the regional and National perspective needed to deal with such multi-State hazards.

I would also like to emphasize that we tapped the talents of more than our own water resources experts. In response to the flooding of 1993, the White House established the Scientific Assessment and Strategy Team (SAST). The main objective of this team was to provide scientific advice and assistance to officials responsible for making flood recovery decisions. USGS mappers led the efforts to build a database that contains information on topography, transportation network, hydrography, land use, levees, historic channelways, precipitation, soil types, crop payments, disaster payments, and biological habitat. Our geologists and hydrologists worked together to analyze relationships among levee breaks and terrain, effectiveness of various land treatments for flood-stage reduction in different regions, and the impact of levees on flooding. No other organization that I am aware of, has the ability to call on such a diverse range of scientific talent to help solve a National problem that affects multiple States.

One application of this study resulted in the relocation of the town of Valmeyer, Illinois, from the floodplain to the uplands. FEMA reports that this information saved many millions of dollars in the current rehabilitation efforts and will save millions of dollars in future disaster payments.

Volcanoes

USGS expertise in volcano monitoring, internationally regarded as arguably the world's best, averted enormous losses -- conservatively valued in the hundreds of millions of dollars -- at the United States' Clark Air Force Base in the Philippines when Mt. Pinatubo erupted violently in June 1991. As the volcano began to show signs of increasing restlessness, USGS and Philippine scientists moved in and monitored the activity and were able to issue warnings on a short term basis of the huge explosive eruption to come. As a result of the credibility of the USGS, the commanding officer was persuaded to redeploy 18,000 American military personnel and dependents from Clark Air Base. Military aircraft and other property also were moved in time and not one aircraft was lost in that eruption. In addition, about 65,000 Philippine citizens were also successfully evacuated, saving many, many lives. Decisive action by the USGS and its Philippine colleagues thus spared tens of thousands of lives and saved hundreds of millions of dollars for the Nation.

Airborne ash from explosive volcanic eruptions is a recurring major hazard to jet aircraft in the busy aviation corridors of the North Pacific. Ash particles sucked into a jet turbine melt and coat the turbine with a thin layer of glass, causing the engines to lose power. During the past 15 years, 80 commercial aircraft have been damaged by inadvertently flying into ash clouds that had drifted hundreds of miles from erupting volcanoes. On December 15, 1989, a Boeing 747 jumbo jet flew through volcanic ash erupted from Redoubt volcano

near Anchorage, Alaska, lost power to all four engines on approach to Anchorage International Airport, and very nearly crashed with the potential for killing all on board. Engine damage in that incident alone cost \$80 million.

After the Redoubt eruptions, the USGS, National Weather Service, and the Federal Aviation Administration developed new procedures for rapid communication of eruption information for commercial and military aviation. As a result of timely warnings during the three eruptions of Spurr volcano in 1992, planes were rerouted, not just in Alaska, but as far away as the Northeastern United States, and damaging encounters with ash were prevented. Likewise, when a volcano in Eastern Russia erupted in 1994, real-time warnings were used to successfully divert more than 70 scheduled flights in U.S. controlled air space around the ash cloud.

The United States has about 60 active volcanoes that have the potential for catastrophic eruptions. Ultimately, when one or more of these reawaken -- for example, Mt. St. Augustine near Anchorage, Mt. Rainier near Seattle, Mt. Hood near Portland, Mt. Shasta near Redding, or Mauna Loa near Hilo, the Nation will need USGS expertise and experience.

National Security

The USGS has played a critical role in the Nation's defense since World War II when USGS scientists helped the War and Navy Departments identify suitable invasion sites, candidate airfields, drinking water supplies and strategic resources. As recently as the Gulf War's Operation Desert Storm, similar information was provided to the Department of Defense. Image maps of Iraq and Kuwait were produced from civilian satellite data showing daily changes in fortifications across the field of battle. Large volumes of prepared image and line maps were printed and provided to the Defense Mapping Agency (DMA) to use in the Middle East. We also worked with our counterparts in the Department of Defense to provide expertise in terrain analysis of desert environments.

Today, USGS seismograph networks are used to monitor compliance with international nuclear test limitation agreements. The USGS assists in the evaluation of the effectiveness of both the Nation's conventional and nuclear arsenals, as well as the safety of military and civilian personnel at our test sites. We also provide maps, terrain analyses, and digital data for the United States and other areas of the world. Figure 3 shows locations around the globe where USGS is currently assisting with National security.

In addition, the USGS is responsible for coordinating and approving the Federal civilian agency access to classified information from the Department of Defense and the intelligence community for responding to natural disasters. Similar information has been used to assist the Drug Enforcement Agency in pinpointing domestic marijuana growing areas and the Department of Defense for detecting drug trafficking operations here and abroad.

Resource Use and Protection

The USGS also provides the Nation with the information it needs to address some of the most pressing quality of life issues we face today.

Water Quality

Since 1972, the Nation has spent more than \$541 billion on water pollution control, nearly all of it on the "end-of-pipe" controls mandated by the Clean Water Act. As of yet, the Nation has been unable to answer the simple question,

"has this investment paid off?" Through a National Water Quality Assessment Program (NAWQA), designed to study water quality in representative basins covering more than 50 percent of the Nation, the USGS documents the improvement or degradation in water quality with time. We also define local and regional differences in water quality, explain the causes of any observed changes in water quality, and address other issues of national concern, such as agricultural contamination of the Nation's water supplies.

The USGS has the responsibility and unique capability to provide nationally consistent water-quality and water supply information. It is the only organization with the scientific resources and infrastructure to provide credible information on water quality in major rivers and aquifers (ground water) throughout the U.S. Only rarely do our water resource boundaries match our political boundaries. Every State has a need for this Nationwide perspective. As Alfred H. Vang, Chairman of the Interstate Council on Water Policy recently stated:

USGS Support for Defense and National Security Programs

1990-1994

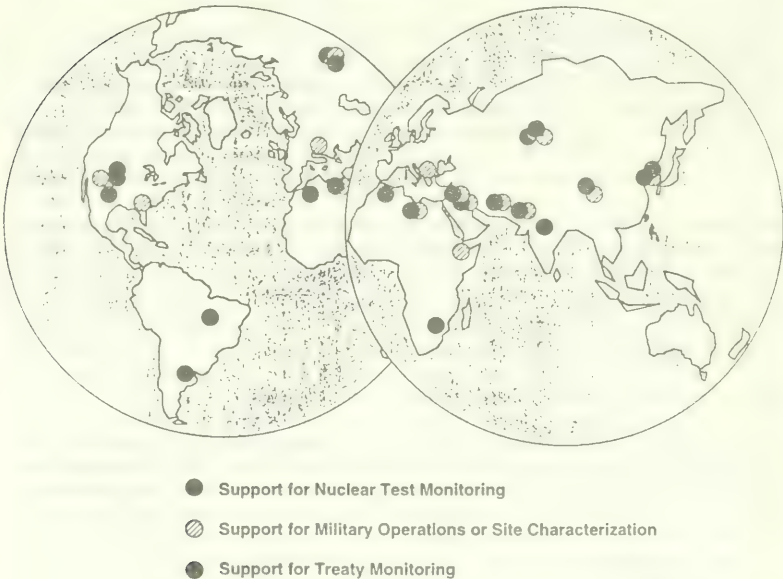


FIGURE 3

"Because the USGS is renowned for its objective and independent scientific work, the agency is particularly valuable in interstate water planning and management. States with highly contentious interstate problems have grown to trust and rely upon USGS data analysis, thereby avoiding protracted lawsuits and data wars."

Walter R. Lynn, Chairman of the Water Resources Planning Council, New York State Department of Environmental Conservation, concurred:

"...we do not believe that dispatching the work of this premier organization to 50 State entities or to privatize its activities either would be more effective or efficient. Many conflicts over water resources have interstate aspects and having a single credible federal agency responsible for water data is vital to effective conflict resolution and much more efficient than having each state collect water information of its own."

Ground Water Protection

The water data we provide also plays an important role in helping State and local water agencies determine their regulatory approaches, often saving millions of dollars in the process. For example, during the mid-1980's, rumors circulated that ground water beneath the fertile farmland of the Midwest might be contaminated by herbicides. Had this been true, extensive monitoring and a ban on many widely used agricultural chemicals would have been necessary. A recently completed USGS assessment of water from shallow wells under corn and soybean fields across 12 Midwestern States indicated that the amounts of sampled herbicides in drinking water did not exceed the EPA maximum contaminant levels. Published results of the study have calmed fears and will result in substantial savings in monitoring costs for State agencies.

Similar studies on rivers demonstrated that, in many Midwestern States, herbicides are a seasonal problem only. As a result, the expensive treatment of water supplies and costly monitoring for these contaminants can be greatly reduced for 8 months of the year. Conversely, the studies show that herbicide concentrations in reservoirs remain relatively high throughout the year. States such as Kansas and Nebraska have used this information to target their efforts to control herbicide use in specific high-risk watersheds.

Such comprehensive studies require long-term regional or National investment. States, localities, and academia generally do not have the means or the desire to undertake such studies. Equally important, studies done by regulatory agencies or by consultants working for the regulated community would be met with skepticism. Impartial analyses are necessary for reasoned approaches to water resources development, regulation, and protection.

Ground Water Remediation

The information we develop also has uses in treating waters that already have been contaminated. Let me provide another example. In 1975, a massive leak from a military fuel storage facility in Hanahan, South Carolina, released about 80,000 gallons of kerosene-based jet fuel. Immediate and extensive recovery measures managed to contain the spill, but could not prevent fuel from soaking into the underlying ground water. Soon, ground water was leaching toxic chemicals from the fuel-saturated soils and carrying them toward a nearby residential area. Removing the contaminated soils was technically impractical, and removing contaminated ground water did not address the source of the contaminants. Studies by the USGS had shown that microorganisms naturally present in the soils were actively consuming fuel-derived toxic compounds and transforming them into harmless carbon dioxide. Furthermore, these studies had shown that the rate of these transformations could be greatly increased by the addition of nutrients. By "stimulating" the natural microbial community through nutrient addition, it was shown that the residential area could be protected from further contamination. Following this treatment, no detectable contaminants were found ground water that once contained more than 5,000 parts per billion of a toxic organic compound.

The success of the Hanahan, South Carolina Project was no accident. It was the result of many years of intensive research and testing by many USGS scientists. Cleaning up existing environmental contamination in the United States could cost as much as \$1 trillion dollars. No other entity has the geologic, hydrologic, and microbiological skills in one organization to provide a solution to this very real problem in such a unique and cost effective way. We have a very active program with the Department of Defense working on such clean up issues at many of its military bases. The bioremediation research being done by the USGS has resulted in literally hundreds of requests from private sector individuals interested in transferring this technology for broader use. The USGS can continue to provide the seminal research needed to bring technological improvements for use by the private sector, as the Nation cleans up its past ground water contamination problems.

Fire Damage Assessment

During the wildfire season, the USGS routinely receives signals from sensors onboard the Nation's satellites and processes these data to determine vegetation conditions in terms of relative dryness or greenness. Weekly updates are produced by the USGS showing vegetation conditions for the entire U.S. and are distributed Nationally over computer networks to Federal and State fire management agencies. These agencies use the information to determine local fire danger conditions and, when appropriate, issue safety advisories to the public. Current conditions are measured against historically normal conditions to forecast the degree of fire danger and aid in the allocation of regional fire fighting resources.

Coastal Erosion

The coastline of the Gulf of Mexico is locally eroding at astounding rates, subsiding in river deltas, battered by recurring hurricanes and tropical storms. Nearly 80 percent of the Gulf coastline is under attack. The coastline of some barrier islands has been retreating as rapidly as 30 feet per year. Louisiana loses as much as 40 square miles of land every year to coastal erosion--an area nearly the size of Washington, D.C. Much of the coastline is of extremely low relief, subject to flooding that recently threatened the Netherlands. The USGS has been working with State and local governments along the Gulf since 1986 to better understand the processes and conditions responsible for this erosion and to advise coastal managers and engineers in the defense of the Nation's southern coastline. A dynamic plan to mitigate coastal land loss in Louisiana, endorsed by Governor Edwards in August 1994, relies heavily on many of the results and products from these recent studies.

Oil, Gas, and Mineral Resources

Our American economy and quality of life are dependent on abundantly available and reasonably priced energy and minerals. As we approach the threshold of the twenty-first century our Nation faces the simultaneous challenges of an expanding appetite for energy and minerals, a growing dependence on imports, and an increasing demand for a cleaner environment. In recent years, oil imports have risen rapidly and have reached an all time high; we now import significantly more oil than we did just prior to the "energy crisis" of the early 1970's. Much of our imported oil and mineral resources comes from politically unstable regions subject to supply disruptions. During the same period, our oil production has declined steadily.

The USGS plays a pivotal role in helping the Nation face energy demands by providing objective, non-advocacy energy and minerals resource information

that is equally useful to policymakers, land managers, energy producers, environmentalists, regulators, utility managers, economists, and educators. Just two weeks ago we released our new five-year assessment of the Nation's remaining oil and gas resources, which provides estimates of where oil and natural gas resources remain to be found, and in what quantities.

Information Management

The knowledge produced by USGS programs is useful in a wide range of applications. We are working closely with our customers to ensure that our earth science information meets their data and knowledge needs. Many of these information applications are not readily visible to the general public, but they play important roles in shaping the Nation's agenda.

The 2000 Decennial Census - A Model in Partnership

Seven years prior to the 1990 decennial census of population, USGS began working with the Bureau of the Census to develop a computer-readable data base containing extensive information about the Nation's roads and streams. The Bureau of the Census needed this information to automate the preparation of more than 250,000 individual map sheets required for the enumeration of the Census. Because the information was computer-readable, the Bureau of the Census also used the information to automate the creation and packaging of the information they make available to the Nation. The resultant information is essential to the apportionment of Congressional districts and Federal revenues and is used extensively in government and private sector planning.

Because the USGS produced this basic map information to National standards, Federal and State agencies, industry and the general public also were able to use the same map information without incurring additional costs. As a result, the Federal Government alone avoided costs of more than \$25 million to duplicate this widely-used map information. The OMB estimates that Federal agencies currently spend about \$4 billion annually on the collection, maintenance, and dissemination of geographic data, and that this investment is growing by 10 percent annually. The National Academy of Sciences estimates that State and local governments, utilities and the private sector are investing perhaps 2 to 3 times more than the Federal sector.

The USGS is working with the Bureau of the Census to update map information required for the year 2000 Census. As in the previous census, USGS will produce this information so that it can be used by thousands of organizations throughout Government and industry. Coordinating Federal and State mapping requirements through a national program of standards and cooperative endeavors doesn't cost money, it saves money.

CONCLUSION

The proposed budget, allows USGS to meet many of the highest priority needs for earth science information today, while at the same time, planning for the information needs to support America's future. Let me conclude my remarks with a look to our Nation's future and my perspective on why the USGS is both vital to, and must be a part of, that future. To begin with, we are faced with steady growth in our population. With this population increase comes increasing demands on, and competition for, resources, most likely with escalating, contentious debates over the best use of these resources. A factual basis for these discussions from the USGS would lead to far more rational decisions. Unbiased scientific information is especially important when the Nation faces important and controversial decisions.

In addition, this growing population will be increasingly concentrated in major metropolitan areas. As we saw in the recent earthquake in Kobe, Japan, even a moderate earthquake close to a city can have a devastating impact on metropolitan areas and heavily impact the National economy. Floods and volcanic eruptions can have a similar impact. However, these natural hazards do not need to result in disasters if we adopt wise land-use and building codes and practices. The USGS provides solid underpinning for such practices.

Finally, let me observe that the USGS has served Americans through the latter part of the agricultural age and through the industrial age with expert knowledge of our Nation's land and mineral resources. Now we are leading the way on behalf of the Earth sciences into the information age. We have evolved significantly as the needs of the country have evolved, and we stand ready to serve your future needs with great enthusiasm and imagination.

As Director of the USGS, I recognize that my views on the Survey's value and importance could be viewed as something less than impartial, so, let me conclude with a recent observation by American Society of Civil Engineers' President, Stafford E. Thorton:

"Virtually every business day in this country consulting engineers in the private sector, in addition to engineers working at all levels of government, rely on the unbiased and objective scientific information and data provided by this world class agency."

To paraphrase Secretary Babbitt's remarks on February 6, 1995, at the press briefing on the Department of the Interior's FY 1996 budget, eliminating a science agency, such as the USGS, is like pulling an emergency alarm off the wall: the earthquakes, volcanoes, floods, fires, and landslides won't stop, but our ability as a Nation to anticipate their occurrence and deal swiftly and effectively with them will be seriously eroded. The scientific expertise and technical infrastructure of the USGS is a national investment built over many decades. To discover one day in the wreckage of the next natural disaster that we made a mistake about not maintaining our investment will be too late for the lives and property lost. And such capacity is not rebuilt overnight.

Thank you, Mr. Chairman, for this opportunity to make these remarks. I would like to submit this written statement for the record, and I would be most pleased to answer any questions that you and other members of this committee might have.

BIOGRAPHICAL SKETCH OF GORDON EATON

On March 14, 1994, Dr. Gordon P. Eaton became the 12th Director of the U.S. Geological Survey, U.S. Department of the Interior.

From October 1990 to March 1994, he served as the Director of Lamont-Doherty Earth Observatory of Columbia University in Palisades, N.Y. From 1986 to 1990, Dr. Eaton was President of the Iowa State University in Ames, Iowa. From 1983 to 1986, he served as Provost and Vice President for Academic Affairs, Texas A&M University. From 1981 to 1983, he was Dean, College of Geosciences, Texas A&M University. From 1967 to 1981, Dr. Eaton held various positions with the U.S. Geological Survey, including Associate Chief Geologist, Reston, Va.; Scientist-in-Charge, Hawaiian Volcano Observatory, Hawaii National Park, Hawaii; Project Chief, Geothermal Geophysics, Branch of Theoretical and Applied Geophysics, Denver, Colo.; Deputy Chief, Office of Geochemistry and Geophysics, Washington, D.C., and Reston, Va.; and Project Chief, Southwestern Geophysics Project, Regional Geophysics Branch, Denver, Colo.

Dr. Eaton graduated from Wesleyan University with *High Honors* and *High Distinction* with a Bachelor of Arts in Geology (1951) and received a Master of Science in Geology (1953) and a Doctorate in Geology and Geophysics (1957) from the California Institute of Technology.

He is a member of the American Association for the Advancement of Science, the Geological Society of America, and the American Geophysical Union. He is listed in *Who's Who in America*, *Who's Who in the Midwest*, *Who's Who in the World*, *Who's Who in Science and Engineering*, and *American Men and Women of Science*. Eaton was a member of the committee on the formation of the National Biological Service, National Research Council. He has also served on the Board on Earth Sciences and Resources and the Ocean Studies Board of the National Research Council.

Dr. Gordon P. Eaton was born in Dayton, Ohio, March 9, 1929. He currently resides in Reston, Va., with his wife, Virginia. He has two grown children.

ANTARCTICA EFFORT

Senator GORTON. Senator Stevens, you have to leave. I am going to defer to you.

Senator STEVENS. Thank you, Mr. Chairman. I am pushing back. I do have to go.

Dr. Eaton, I cannot tell you the amount of time I spent this year taking telephone calls from distinguished elderly friends ranging from Mike Halbouty, whom I am sure you know, to Jay Cordell Moore, gentlemen in their eighties throughout the country who still call me son. I like that. [Laughter.]

They are tongue-lashing me because they feel that the Congress is about ready to terminate the Geological Survey. Let me make sure everyone understands it would be over my dead body that they ever terminate the Geological Survey.

But I do think that you have to take a good long look at what you are doing in some of the areas. I have the impression from listening to you—I do not want to pick a fight, but that you are becoming population-based rather than science-oriented to the *n*th degree.

My one question I would ask is: How much work have you got going on down in Antarctica now?

Dr. EATON. We have very little work in Antarctica.

Senator STEVENS. Good.

Dr. EATON. I can think of two scientists who spend a small part of their work year there on continuing projects, and that is about it, as far as I know. Let me check with the division chiefs.

Senator STEVENS. I think the time may come when we can again afford that. But right now, I do not think we can afford that at the expense of some of the things that you have just recited, particularly with regard to earthquake, volcano, flood and natural disaster prevention that you are working, which I think is so important to the country.

But I congratulate you and appreciate you answering my questions.

Thank you very much, Mr. Chairman.

Dr. EATON. Thank you, Senator.

Senator GORTON. Senator Domenici.

Senator DOMENICI. I am fine. You go ahead, Mr. Chairman. I have time.

Senator GORTON. OK.

Senator DOMENICI. First, I want to say it is a real pleasure to be here and salute you as our new chairman. This is the first time I have been at a hearing where you have been chairman, and I want to sit down and be impressed. That is what I want to do.

POSSIBLE REALIGNMENT OF U.S. GEOLOGICAL SURVEY FUNCTIONS

Senator GORTON. Well, prepare yourself. [Laughter.]

As you know, the big issue with respect to the Geological Survey at this point and in this Congress is its continued existence or its parceling out to the private sector, to other government agencies, and especially to the National Science Foundation.

You have outlined what you do. You have not given me your views as to whether or not some or all of these functions would, in fact, be picked up by the private sector, if the Government abandoned them, whether or not some of them could better be conducted by, say, the National Science Foundation, either better or at less cost, or by the National Oceanographic and Atmospheric Administration or some other units of our Government.

Why don't you now, for the record, give your justification for what it is you do within the parameters and the methodology which you have done historically? And tell me whether you think there are any fundamental changes that are appropriate.

Dr. EATON. I am happy to answer that question. Let me begin by stating the obvious and then move the framework of a plan that we have set up that is going to begin to look at every program with just the kind of question that you have posed in mind.

First of all, we are not doing anything that the Congress has not in the past considered appropriate for us to do. So I am starting from a historical base here that the record of our work is, in fact, a record of work that has been blessed in years past, going back 116 years, by both the administrations who were in power at the time and your predecessors and colleagues in the Congress.

So we take that as a departure point and move into a period now where, in fact, Federal dollars are exceedingly limited for a variety of purposes. And I appreciate, as well as the next person, the enormous competition that scarce Federal dollars are under for a whole variety of things.

And I think those of us in science realize that the whole of science has to speak up now and justify what it does in terms of the ultimate benefits to the Nation.

U.S. GEOLOGICAL SURVEY STREAMLINING PROCESS

In preparing for the streamlining process that we have been undergoing, and we are now in the process of talking about the 1997 budget because of the way the budget cycle works, we have put in place a systematic, rational and I think very objective system for asking a whole host of questions of everything that we do.

The programs, which are identified in the budget book, as activities and specific areas of work, that is one of the things we are looking at. Our operational activities, how we do some of that work, is now up to challenge internally, as are some of the functions.

Some of the questions that we are asking of each of these three things, the programs, the operations and the functions, have out-

comes that range all the way from our proposing to eliminate them or to proposing they be commercialized, where we see the opportunity for, in fact, the making of a profit, however large or small, by the private sector; to privatizing them, which is to say to maintaining control over them and still requesting budget dollars for them, but asking the private sector to undertake these on a contract basis; to transferring them perhaps to other Federal agencies or to suggesting to you that we consider passing them off to the States to conduct; to keeping them because they are basic core functions of ours but perhaps in need of modification, in which case we will undertake studies to see how we might best modify them to make them more effective and to cost less; to keeping them because we are convinced that these are highly appropriate Federal roles for the U.S. Geological Survey, and that the conduct of these programs is correct and appropriate and add a cost-effective level at the same time.

Senator GORTON. How long is this going to take?

Dr. EATON. Let me say that because we have already begun the process, if we were to be asked to put something on the table in terms of the total budget target, I think we could come back within 1 week with a plan and explain to you in some detail why we have chosen to do this, to eliminate this, to transfer that, to privatize the other. In the meantime, we are already moving down some of those paths.

Senator GORTON. I do not think I have heard a better answer than that. Usually they say a decade or something like that in this answer. Obviously, at least your preliminary answers to those questions would be of big value to the committee.

Senator DOMENICI. I think, however—excuse me, Mr. Chairman—in going through the versions of alternatives, he used privatization with a very big string.

That concept of privatization is that they would continue to seek the funding and contract out. There is at least a subheading to privatization, which is that somebody else would do the work and not the Government. Is that not—

Senator GORTON. Certainly.

COMMERCIALIZATION VERSUS PRIVATIZATION

Dr. EATON. Well, I really meant to refer to that when I used the term "commercialization," which I would make separate and distinct from privatization.

Senator GORTON. Thank you.

Dr. EATON. Let me give you an example of how that might work, and I will choose an area that I know is of great personal general interest to you, Mr. Chairman, and that is this whole issue of the printing and distribution and sales of our many, many, many maps.

We prepare and publish and distribute and sell maps that number in the many tens of thousands at different scales, for different parts of the country.

We are now selling those maps in a couple of different ways. We are selling them ourselves through Earth Science Information Centers, one of which is located in Spokane, WA.

We are selling them through our principal National Sales Distribution Center in Denver, CO, but we also sell them at a discounted price to a number of commercial map dealers, who sell significant numbers of these maps and who do so successfully in terms of charging a higher cost for these products and still finding a market for them.

One could argue that we ought to move all of the way in that direction and shed the Geological Survey's responsibility for printing—here, we would have to talk to Federal partners, because other Federal agencies depend on us for printing map products—to sales and distribution.

Now, you can say: Could this be commercialized in its entirety? Could it be privatized in its entirety? And I think we would want to walk through what our reaction to this is.

If you want to step back even further and say: Let's just let the private sector make maps, the U.S. Geological Survey simply provides digital data in a GIS format, and then any commercial map maker can take over at this point in time.

Our concern in this area is that it cannot be entirely turned over in this way, because in order to make a profit from the making of maps, as opposed to the printing and the distribution of maps, there has to be a market.

And our belief is that there would be a market for about 20 percent of the country. And for the other 80 percent, there would not be a sufficient margin of profit for companies to be interested.

So the Forest Service, whether it is in Tongass National Forest or a national forest in the State of Washington, might not find a sufficient market there, certainly for other Federal lands in the Western United States.

And for some parts of Alaska, I would argue, there would not be enough sales volume to create a margin of profit that would make it worthwhile.

So we have to walk kind of carefully into this area, I think, exploring—

COST RECOVERY FOR MAPS

Senator GORTON. But the price you get for your maps, I assume, does not pay the cost of distribution and printing leaving aside the cost of finding the base data.

Dr. EATON. No; we are operating under the terms of OMB Circular A-130, which says we should charge up to, but not to exceed, the cost of printing and distribution. And we do try to recover those costs.

We are looking right now, again, at our pricing algorithm, because we know that we have failed to recover something around \$4 million in the last couple of years. In other words, the maps were priced too low.

And we will make adjustments, but we believe that it is in the country's best interest that we not ourselves accrue funds that are greater than the cost that we have in distributing and selling the products.

Senator GORTON. Why don't you go on, and tell my friend, Senator Domenici, that their maps got my family and I across the United States on our bicycles?

Senator DOMENICI. Is that right? Well, I wonder, from where did you go, and where did you end up?

Senator GORTON. Olympia to Boston. We covered a fair amount of land. [Laughter.]

Senator DOMENICI. Well, that is pretty good. I thought this was just a western outfit, but I guess it is more. [Laughter.]

Incidentally, you did not mention that we have national forests, too. You just have a preference for Alaska and Washington.

Dr. EATON. Not at all. I am well aware. I have worked in national forests in New Mexico, Senator.

Senator DOMENICI. Can I just have one question?

Senator GORTON. Sure.

NEW MEXICO WATER STUDY

Senator DOMENICI. I am going to ask you if you can look at something for us and then put the rest of my questions in the record.

Dr. EATON. Fine.

Senator DOMENICI. It will take me a couple of minutes, however, because this is one of our most serious problems for the State of New Mexico and the city of Albuquerque.

You have done two USGS studies on our aquifer, the middle Rio Grande district, which serves Albuquerque and all its metropolitan area, and from which we mine all our drinking water, our recreation water and our industrial water, as you know. It all comes from wells.

It seems now that USGS has pointed out that this water supply may be somewhat smaller than we had been led to believe.

Dr. EATON. Correct.

Senator DOMENICI. We also thought that the water was not being used up as fast as it is. So from my standpoint, this is the most important future issue for the most populated part of the State and the most industrially based part of the State. Our future is totally dependent upon answering the question: "What does the water supply below the ground really look like? What is it all about?"

The basin is 4,300 square miles. It covers five counties, but it is clearly identifiable, and you have helped identify it in the past.

The problem is that your experts and scientists tell us that they are not sure just how this aquifer works, and that is very important for us to find out. No one has been down there, as somebody told us at one of these hearings.

We are not sure about the connectivity between the various pillars of water underground and the like. We do not even know if there are faults that compartmentalize the huge quantities of water, and if there is seepage between them, which would be very important for us to know in terms of the efficacy of the studies, and what the studies really mean.

Are they at a low ebb in one of these pillars that does not seep between each other? Is it much higher in another underground portion of the aquifer?

Some have suggested that we need to do on-the-ground field work to determine the answers, and then use that data to improve what the computers and the computer models would plug in and tell us.

To do it right and to get the level of detail that we need will require the use of supercomputers from what we have been told, and there is a genuine interest in using those at one of the major national laboratories in New Mexico, which is already involved in some monitoring activity.

These two studies that you have done, one in 1993 and then one in 1994, have included some very sophisticated, new computer modeling.

I would suggest, Mr. Chairman, that USGS has really led the way in this. It is dynamic. It leaves some questions unanswered, but it is state-of-the-art and rather fantastic.

While you said water is not as abundant as we thought, clearly, there is much to be learned. As a result of this, I convened a technical task force in New Mexico, which made recommendations to me, to the Governor and the mayor of Albuquerque about a multiyear study that ought to occur with reference to determining what should be known and how to better manage this aquifer.

The task force met for a number of months. They are merely trying to provide a premise and a series of tests that ought to occur so that we will know what we ought to know at the end of the fifth year of the study.

They have a work plan. You know better than I what would be in one of those work plans, but it is exploratory drilling, geophysical studies, recharge experiments, just a whole host of things that I am quite sure your informed scientists would say we ought to be doing.

U.S. GEOLOGICAL SURVEY ASSISTANCE IN WATER STUDY

It also includes within its recommendations that certain tasks should be done by the USGS in connection with this major study. I tend to think that is the case, and I do not want to use up more of your assets than we are entitled to.

It does seem to me this could be considered a very major pilot effort, in terms of applying state-of-the-art technology in a very cooperative way with the State engineer and the Los Alamos National Laboratory and Sandia National Laboratory. You may end up getting the kind of information that will put you once again on a pedestal where you deserve to be.

There is a bill in the State legislature that says: Let's set this task force up and make it a very high level one, just four or five people, like water regents or the like, and let them steer us through this 5-year program. The State legislature will put up some start-up money.

First, let me give you a copy of this work plan, and I will hand that to you today. Your people will readily know the experts that put this together.

Some USGS engineers were either advisors or on this task force. I am wondering if you would have the wherewithal to report back to the committee, not to me, whether there are significant aspects of this fact-finding activity and analysis, which the USGS would be equipped to perform, from a technical and scientific standpoint within the premise of what you are doing on behalf of this kind of problem in America.

You have a new three-dimensional ground water model, which provides a framework for quantifying and managing a resource, but it is going to remain an uncertain tool until the nature, the volume, and location of the water, the quality, and the interconnections—we have been told all this now—between the ground water elements and the Rio Grande basin itself are known. Until we know these relationships, we are not going to know how to manage the water resource.

I wonder whether you might take a look at this and report to us. Would you also tell us whether you think this basin is a critical basin that would provide a sufficient challenge to help the USGS prove that its ground water 3-D computer models are indeed effective?

I think you would want to do that, and there is a big interest in the Federal Government, which you already know about. We have two national laboratories, one of which is totally within this basin. We also have a military base within it.

I think it is also a national problem that you may be helping to solve, if you help us with this report. Can I leave that issue with you?

NEW MEXICO WATER ISSUES

Dr. EATON. You may indeed. I would be pleased to see it. Let me make a few general remarks in response to your comments, Senator, and then ask the chief hydrologist whether he wants to add to those.

Senator DOMENICI. Please.

Dr. EATON. As you know, we have a permanent presence in the Albuquerque basin, in that our district office, which is a significant number of people, is there overseeing water issues across the entire State of New Mexico.

They have worked closely with State officials and with city officials, the city engineer, for a long time in the past.

We have had, both of us, both the State, the city, the Federal Government, have had partnerships with one or more consulting firms. This is a complex enough issue.

In my mind, there is a clear role here for everybody who is concerned and can bring a different kind of expertise to the table. So it could end up being a national model of a partnership of a new kind in the study of that basin.

You have seen declines in the water table, significant declines. It was those that called our attention to the fact that our original estimates made tens of years ago about the availability of water were incorrect.

We had insufficient understanding of the subsurface geology at that point. And I underscore this point, because I am mindful of the fact that the chairman asked more questions than I answered before we began to talk.

But here is a good example of the synergism and the benefit that comes from having a geologic division sitting side by side with a water resources division inside the Geological Survey.

This is both a hydrologic problem, as well as a geologic problem that the city of Albuquerque and those who live and work in the Albuquerque basin have. And that kind of thing would be lost if,

in fact, we were dismembered and scattered around in the Federal Government.

We are eager to get on with further assistance. We are gearing up, in fact, to do just that. And I would like to ask Dr. Hirsch if he would come to the table and talk a minute.

SUMMARY STATEMENT OF ROBERT M. HIRSCH

Dr. HIRSCH. Thank you for your comments about our ongoing work. Dr. Eaton and I, in fact, were in Albuquerque several months ago and were given a good deal of information about it, including talking to people from the city government, who have been partners in this effort since it began.

Dr. Eaton spoke at the beginning about a lot of changes in the Geological Survey, including refocusing some of our programs. And, in fact, one of our long-standing programs, called the regional aquifer systems analysis, which is an effort that was winding up a major phase of investigation, has in fact been refocused.

And our plans, in fact, call for us to investigate particularly issues of ground water/surface water interactions, which you spoke of a moment ago.

And we have been looking at the Albuquerque basin as an area where we would bring those dollars in that program in refocusing our efforts to doing more work of that kind. We also are looking to improve our definition of the hydrogeologic setting, understanding the role that faults play in the system.

It may be of interest that in early April, there was a meeting involving the Geological Survey and many officials from the State of New Mexico to lay out in much more detail some of the plans for the geologic studies at the basin. So our intention is to—

Dr. EATON. That is this group, I believe.

Dr. HIRSCH. Yes; right. We give a lot of credit to the New Mexico Bureau of Mines and Mineral Resources for some of the early work.

Dr. EATON. Bob, may I interrupt you and say that the State geologist is here in the back corner of the room, Dr. Chapin?

Senator DOMENICI. He just lobbied on your behalf a couple of days ago.

Dr. EATON. Oh, he did? Well, I am happy to recognize him.

Senator DOMENICI. OK, sir. [Laughter.]

Dr. HIRSCH. And we were present at a meeting with them to talk about our ongoing efforts. We sit on the technical advisory committee, of which you spoke, and are very excited about the opportunities to help in that area and to advance the science of hydrogeology. So we are very enthusiastic.

ALBUQUERQUE WATER SITUATION

Senator DOMENICI. Mr. Chairman, I might just tell you how significant the last study was, which indicated that we had less water than we thought, yet not knowing what that means. We do not know the quantity.

When I was mayor of that city, we brought in the first industrial prospects. We succeeded in bringing two companies from the State of California.

I can recall vividly, because I was the super salesman for the city at that point, that when it came to water, we were just—we would get over that issue quickly. We just showed this map.

It said that Albuquerque sits upon the greatest lake of water in any city in the United States, and we would show it and say, "So you just don't have any worry about that."

So lo and behold, we have just succeeded—

Senator GORTON. We rarely get asked questions. [Laughter.]

Senator DOMENICI. We were asked whether or not they would drown. In any event, since then, we have succeeded in bringing Intel and a lot of other companies to Albuquerque, and they use a lot of water.

So right about the time that we are optimistic about our future, our good friends from the USGS come along—I don't cast aspersions on their timing—but they come along and tell us that we do not have as much water as we thought.

So the whole economic development effort is stymied because they gave us this study. I should have opened with that remark.

Dr. EATON. Happily, Mr. Chairman, they did not shoot the messenger.

Senator DOMENICI. No; we were too smart for that, I tell you. We are worried about it. I want to thank you for your answers, and let me just suggest our Governor is interested, and our mayor is genuinely interested. You all know that.

I am interested. I am sure the whole delegation is. I am not trying to be the sole source of this enthusiasm for your work.

I do appreciate it, and I would like to get some information—if you would report to the committee on what you think about all this I would appreciate it.

Dr. EATON. We would be pleased to do that. We are excited about the opportunity it provides, and Russ Livingston, who you perhaps have met, our district chief in Albuquerque, has rolled up his sleeves and is ready to charge into this.

Senator DOMENICI. Thank you very much.

NATIONAL GEOLOGIC MAPPING PROGRAM

Dr. EATON. Thank you, Senator.

Mr. Chairman, let me use the opportunity to introduce the State geologist from New Mexico to come back to an element of a set of questions that you asked about what we do and who else might do it.

The State geologists in the collective constitute an association of all of their colleagues, and they worked hard 5, 6 years ago to secure the passage of the National Geologic Mapping Act.

That was authorized by the Congress. It has never realized the appropriated levels of dollars that were in the design that appears in the authorization.

We have been working with them, and we have been passing a limited amount of funding forward to them, and they sit at a table with some of our people to design which State activities should be blessed with this rather limited amount of money.

And through a series of workshops that we have been holding jointly, a decision has been made to advance the amount of moneys

from our budget that we pass to the various State geological surveys to enhance the level of mapping activities in those States.

So here is a case where it is not strictly privatization in the sense that the money has gone out to the private sector, but it has now been, in effect, transferred to State agencies for the conduct of this work.

It constitutes a form of partnership that I think you can expect to see the Geological Survey engage in more and more in the future.

TRANSFER OF U.S. GEOLOGICAL SURVEY FUNCTIONS

Let me just say a couple of other things with respect to how it has been proposed, at least 1 year ago, we might be subdivided and distributed around inside the Federal Government.

One of the proposals is that our water work could be done by the Environmental Protection Agency. I think there are a number of reasons why that would not work and why the Nation would not want to do this water work in that way.

First of all, they do not have any expertise. They do not have the infrastructure to do that. All of that would have to be passed off from us to them. There would be no cost savings in this.

But I think more importantly, from a philosophical point of view, there is a real question as to the desirability of having a regulatory agency take on the responsibilities of an objective science agency that is free from the political pressures that come from acts of regulation.

I really think you want to keep the fact gathering and the decisionmaking separate from one another.

Senator GORTON. You have no regulatory authority at all.

Dr. EATON. We have no regulatory authority. We have no management authority. We do not enforce any laws, and we are quite content that that is the case. That does not seem to have great currency here in Washington at the present time.

Now, you asked a question about NSF, the National Science Foundation. The proposal of 1 year ago was that the work of the Geologic Division be transferred to the National Science Division, again with no funds going with it.

All of this money was claimed, saved. So, in effect, if that plan were to be carried out, we would be talking about others doing \$580 million of work on a pro bono basis. We think that is unlikely to happen, either on the part of other Federal agencies or States.

But the National Science Foundation is in no way set up to do the kinds of things we do. First of all, it has a very tiny staff of scientists, and all of their responsibilities are administrative.

They, in effect, pass Federal moneys out to the academic community and, in some cases, to the private sector for the conduct of curiosity-driven research that has in most cases very little relationship to any Federal missions or concerns.

So it is very highly dispersed in an academic community. And I can speak with some degree of assurance here, because I came to the position of director from the academic side of the house of science.

Many of the things that we do are not the sorts of things that university faculties have an interest in doing. They are focused on the short term.

They utilize graduate students to achieve short-term research aims that constitute the basis for theses, for example, graduate theses; whereas, we are focused on the long term. We have long baseline monitoring records that go back 100 years and more in the area of water.

We operate large networks, like the seismic network across the country, for which the academic interest would be low to none. So that as an alternative strikes us as being unworkable, just as unworkable as the notion that the water work go to the EPA.

Now, when you talk about the possibility of passing the water work off to the States, again, if it is done at no cost, there will be a very limited capacity to do the work.

But more importantly, at the present time, through the Federal-State Cooperative Program, the States are already bringing 50 cents for each of our 50 cents that we bring to the table in each of these States.

And we leverage one another's funds here in the conduct of work that is of great benefit to the individual States.

U.S. GEOLOGICAL SURVEY AND BUREAU OF MINES CONSOLIDATION

Senator GORTON. Doctor, let me see if you are as modest on the opposite side of the coin as you are protective on this one.

Because of significant budget reductions and office consolidations, it has at least been suggested that there is a degree of similarity between the Geological Survey and the Bureau of Mines, sufficient that we might consider consolidating the Bureau of Mines into the U.S. Geological Survey.

Would that be an appropriate consolidation? And is it possible that it could save any money?

Dr. EATON. Let me respond with some general remarks and then turn to Mr. John Trezise, who is here from the Department of the Interior, who would have the broader view.

The history is one of the ways at looking at this. In 1910, when the Bureau of Mines was created, it came out of the Geological Survey.

And the reason it came out was that there were some functions—and I will give you a perfectly good example—the whole issue of mine safety, which was unrelated to any of the work that we do in the Geological Survey. That is still true today. Mine safety is an important element of their work.

Advance materials is a subject that relates to the creating of new composites and the amalgamation of other metals. This sort of work, metallurgical, however you want to refer to it, is also something that we do not do.

Now, there is an area of direct overlap, and that is in the area of mineral statistics and in the studies of mines and mined areas.

In fact, we have long worked with the Bureau of Mines in partnership in the study of wilderness areas, that the Forest Service was considering with the Congress's approval, to set aside a wilderness area.

I worked on a number of those teams, and some of my colleagues were Bureau of Mines colleagues. And the partnership, I think, worked very well indeed.

These days, where both of us are concerned about acid mine drainage and metal pollution on abandoned mines of Federal lands, we both see a role there.

Because this committee last year challenged whether or not, in fact, we were getting on one another's turf, we sat down at a table with Bureau of Mines personnel and designed a program that explicitly defined what their roles were and what our roles were. So we have a good working arrangement.

But I am mindful of the fact that I have not addressed the core of your question, and I would like Mr. Trezise to come to the table, if he would, and do that.

SUMMARY STATEMENT OF JOHN D. TREZISE

Mr. TREZISE. Thank you, Doctor.

My name is John Trezise. I am with the Department's Budget Office.

I think Dr. Eaton has very effectively stated the Department's position. There certainly are some areas of the work of the Bureau of Mines that are related to that of the Geological Survey. There are others areas, such as mine safety, which is really an entirely distinct and separate area.

Our view is that through the program review that the Bureau of Mines has undertaken, the Bureau has focused on its core missions.

It has realized some significant savings in budgetary terms, and there would not be significant additional savings associated with consolidation. Indeed, there would probably be some costs of merging the two organizations.

COASTAL EROSION IN WASHINGTON STATE

Senator GORTON. Thank you.

I now have a peripheral question, Dr. Eaton, on coastal erosion. It has been, as you know, a serious problem in the last couple of years in Washington State, in two of our coastal ports.

Can you tell me what action USGS is taking in connection with addressing this problem, and whether or not you regard that action as adequate and the funding in your proposed budget is sufficient to carry out any such functions?

Dr. EATON. Again, I would be happy to respond to that. We are aware of the exacerbated coastal erosion as a result of harsh weather off the coast of southwest Washington last year and the year before and the threat to property and even to life. And we are aware of the threats to the channels and navigation facilities at Grays Harbor and Willapa.

There are further threats, as I am sure you are aware, to the cranberry industry and to the fish and shellfish industry as a result of all of this.

We have done a fair amount of work of this kind, not in Washington State but in other places as diverse and distant as the coast of Louisiana and the coast of Lake Erie in northern Ohio.

And I think along the way, we have accumulated a great deal of understanding about the processes of erosion and sediment, sediment transport, and how to provide information to other agencies, either State agencies, as in the case of the State of Washington, or other Federal agencies like the Army Corps of Engineers, how to design structures that would help minimize that damage.

With respect to what we are doing, there isn't any funding that is explicitly included in the fiscal year 1996 budget for work on the coast of Washington.

But somewhere in the neighborhood to \$200,000 to \$300,000 is included to begin new coastal erosion work somewhere. And this could indeed, in fact, be focused in part on the coast of Washington.

We will need to develop a study plan. Those dollars would allow us to get started in the development of that plan. Trying to look down the years over the next half a decade as to what that might cost, we have not gone that far with that study.

We do have, by example, the cost of the study on Lake Erie, and that has run somewhere in our budget about \$1.5 million a year.

Senator GORTON. Has it had positive and intangible results?

Dr. EATON. I would argue that it has. On the other hand, it is really up to those who then take what we have provided by way of understanding and turn that into concrete steps, which is something we do not do, to give you a truly informed answer to that question.

As to the priority of whether or not we could or would begin that, you need to know that, I think at the moment at least, the first priority would be to finish up the work on those areas that are currently under study. But I think we could, in fact, begin to do some planning.

We do have—and I would be happy to provide that for the record, if there was interest on your part—a national plan for marine and coastal geology. We do this approximately every 5 years, lay out a plan and scope of work.

Senator GORTON. Fine. We would like that.

Dr. EATON. So we will make sure that your staff is provided a copy of that.

NATIONAL ATLAS

Senator GORTON. When you visited me in my office, you were made aware of my own predilection and love for that ancient national atlas of the United States that was published in 1970, and we discussed my desire, if it were reasonable and possible, to do something to produce another such atlas.

You had a number of outstanding suggestions, not the least of which was that with modern technology, we could do something of a loose-leaf nature——

Dr. EATON. Right.

Senator GORTON [continuing]. And produce atlases for various people for various purposes. In my case, my interest is intellectual and aesthetic rather than for any particular use. But I do regard that as a wonderful kind of information, not for professionals but for amateurs.

You have had an opportunity now to think about that for a while. Would you put on the record your own views of the useful-

ness of an updated national atlas for more or less general purposes, the cost, the time line, whether or not the cost is worth it in connection with what else you do, and how much such a project would simply be using data that you already have and organizing it in a user friendly fashion, as against having to go out and do things that you would not otherwise do?

Dr. EATON. We would be happy to provide that in either of two ways. We could briefly summarize it here this morning and then provide a longer—

Senator GORTON. Give me a brief summary this morning and then go into detail.

Dr. EATON. OK. In doing that, let me make again some general remarks and ask Mr. Watkins to come to the table, because he would be the one responsible for this.

You know well from our previous conversation that I, like you, am enthusiastic about this. I find that old atlas still of very great value.

In the meantime, in the years that have passed since that was published, we have moved into the electronic age. Almost certainly one of the things that we would want to do would be to develop an electronic form for that atlas, allowing people to access and generate a paper copy.

My own belief is that we have not reached the point in this Nation where there is not going to be any interest in paper map copy and in some form of a published atlas that could be in school libraries, for examples.

What I had mentioned to you previously was my belief that specifically what we ought to do in reproducing that part of a new national atlas, the electronic part being the other, would be to create not a bound volume but a loose-leaf volume that would allow people to buy individual separates of maps and, in effect, custom design their own atlas for their own purposes, whether it was recreational or whether it had to do with land use planning or estimates of risk from natural hazards and so forth.

I would hope very much that during my tenure as director that we could move into at least the early stages of producing both of these kinds of national atlases, the limiting factor here being, as I am sure you know, is funding.

We do not have a line item in our budget now for the atlas at the present time. And thus far, our thoughts about it had been driven largely first by my own belief that it is an important thing for us to engage in.

A quarter century has elapsed. A lot of things have changed. Some things, perhaps, like some of the statistical data related to climate, has not changed. And there, we could use previous data bases. But in other cases, there are such significant changes that we would have to accrue new data. So with that little bit as a background, let me ask Mr. Watkins to comment.

SUMMARY STATEMENT OF ALLEN H. WATKINS

Mr. WATKINS. Good morning. I am Allen Watkins. I am Chief of the National Mapping Division of the Geological Survey.

The director has summed it up very well. I think it is clear to most of us that newer technology, in the form of networking and

electronic atlases, would enhance the value and make it potentially more utilitarian.

There also are some interesting concepts about creating interactive types of capabilities electronically with that type of atlas. It would certainly make it easier to keep up to date so that we do not have 25 years pass before we produce another one.

In terms of the early planning—and I do emphasize these are very early numbers—if one was to try to put together a national atlas largely based on the concept of the information content of the original atlas, but doing it electronically and then using some of the technology that Dr. Eaton was talking about, loose-leaf assemblage of printed materials, our best guess is that it is a 5 year kind of job with a total cost of something on the order of \$8 million to \$10 million.

Now, I wish there was more analysis behind the numbers I am giving you. We would be happy to spend some time—and it might take some time—to lay out more of a plan and refine those numbers.

Senator GORTON. Dr. Eaton, I am going to want that.

Dr. EATON. Fine. We will do it.

Mr. WATKINS. In terms of phasing of that activity, the first year or year and a half would be spent in pulling together the agreements with other agencies, Department of Agriculture, Department of Census, that would have to provide some of the data and information, research developing the concept on the layout, those kinds of things.

And that is probably a couple million of the \$8 million to \$10 million spent in that first year, year and a half.

I do not view, as I sit here, that we would have great trouble obtaining data and information from other agencies. Most of that exists in one form or another.

The difficulty we would have is structuring it into common formats and across political boundaries and those kinds of things. The reformatting and compiling of the data is probably the largest part of the cost, and that is probably some \$6 million or so.

If one wanted to print a hard copy version, that is one-half million dollars or so, whether we did it loose-leaf or whether we did it hard bound.

One interesting concept that might be pursued to lower the cost would be a private sector/government kind of cooperation in some way so that the data was compiled and assembled federally, the electronic atlas was put together and then maybe arranged for compilation and printing of it to take place in the private sector, with a recognized partnership between the Government and private sector.

EARTHQUAKE HAZARD REDUCTION PROGRAM

Senator GORTON. Thank you.

Thank you, Doctor.

I note that this is listed as various earthquake programs which USGS undertakes. And I do note that the Earthquake Hazard Reduction Program is due under your budget for a modest increase with a concentration on key urban areas, including San Francisco, Seattle, and Memphis.

How did you pick those three, and what is the nature of the program?

Dr. EATON. Well, let me start with how we picked those three. Those three are areas of known large earthquakes in the past. The Memphis area experienced—

Senator GORTON. 1820 are we talking about?

Dr. EATON. 1811 and 1812, and there were some extremely large events there that rearranged the topography and the courses of rivers. The area was very sparsely settled at the time, and the losses of property and life were a great deal lower than they would be today.

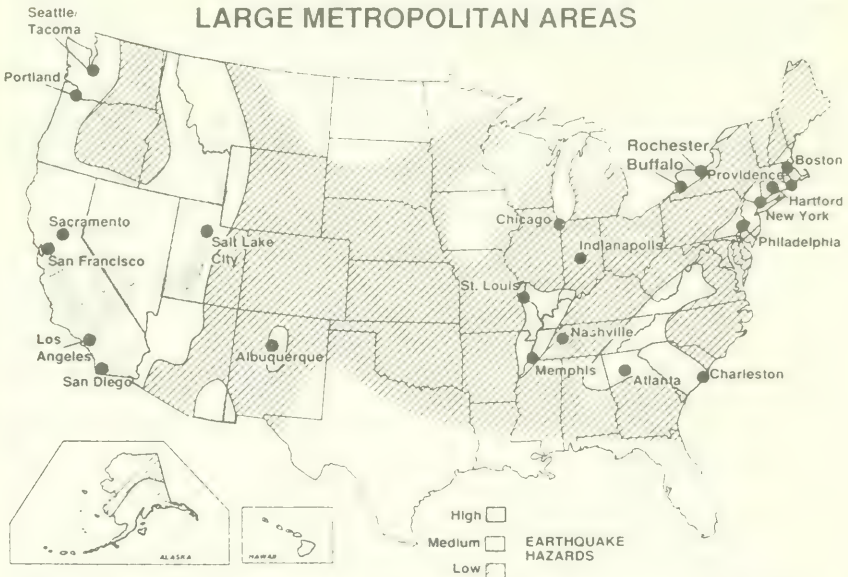
Seattle has been a sleeper for us for a long time in that our understanding of plate tectonics, plate boundaries, relative plate motion has suggested for a long time that there ought to be very significant earthquakes fairly frequently in the Pacific Northwest coastal area. I am particularly personally mindful of that because my home is on Whidbey Island.

Los Angeles and San Francisco are along the San Andreas fault, which is another plate boundary and which is very, very active.

So the choice of those three really relates to the long history of very significant earthquakes occurring. We have a briefing board that we put over here, and I could walk you through it, but I would really like to ask Dr. Filson, because this is his field of expertise.

[The information follows:]

EARTHQUAKE HAZARDS IN LARGE METROPOLITAN AREAS



Senator GORTON. All right. And while he is getting up there, I have a memory of a map not dissimilar from that which appeared in Time or Newsweek about the time of the Kobe earthquake, which gave us in the Seattle area the dubious distinction of being set for a nine.

And it was the highest number on the map, and I would like to know whether that was accurate and how much alarm it should create.

Dr. EATON. I am happy to say that is Dr. Filson's area.

Senator GORTON. All right.

SUMMARY STATEMENT OF JOHN R. FILSON

Dr. FILSON. My name is John Filson. I am the Acting Chief Geologist at the Geological Survey.

This map presents in diagrammatic form the various earthquake hazards in the United States, the hotter colors being the areas of greater hazard. But I would like to point out that these—

Senator GORTON. It is too bad Senator Domenici left. [Laughter.]

Dr. FILSON. Once he solved the water problem. [Laughter.]

I would like to point out, Senator, that this map is based on a quantitative map that has been produced in the past by the Geological Survey that indicates the degree of horizontal ground shaking that might be expected at various parts of the United States over periods of 50, 100, and 250 years.

And this information is useful in the development of building codes and to the engineering community in general. So I wanted to make that point about what the basis for this map is.

Justification for the increase in the Earthquake Hazards Program is to apply the lessons we think we learned at Northridge, during the Northridge studies, our studies following that event, and apply them in the areas you mentioned, which we consider to be of high seismic risk, San Francisco, Memphis, and—

Senator GORTON. Are you primarily interested in how to deal with an earthquake once it has happened or with building codes—we were speaking about the difference in Los Angeles and Kobe—or are you very much involved in the prediction business, or attempting to learn about the prediction business?

FOCUS OF HAZARD ASSESSMENTS

Dr. FILSON. Our activities focus in two main areas. We do hazards assessments, what might happen, how big will it be and how often it will happen, and what will be the effects of it happening.

We also do earthquake monitoring. That is, to report rapidly what has happened, how big it is, what the magnitude, and what are the likelihood of after shocks.

Senator GORTON. Dr. Eaton talked about that when he spoke about the railroad.

Dr. FILSON. That's right.

Senator GORTON. OK.

Dr. FILSON. These are two main areas. The hazards assessment include, as I mentioned, national maps for the expected degree of horizontal acceleration. This is a very useful information for engineering design.

But we don't just provide this data. We also provide assessments of what the probabilities of how often and how big earthquakes might be in southern California, in the Seattle area, what have you. We provide this information to State agencies, to Federal and

State emergency management agencies and other users at the local level.

We do not develop, nor do we enforce, building codes. We just pass on this information of what we expect the degree of ground shaking to be to the engineering community and land management people. Designers use this information in the design and development of structures.

This program began in about 1978 under a separate authorization, and it, in fact, includes the Federal Emergency Management Agency, the Bureau of Standards, which is now the National Institute of Science and Technology, and the National Science Foundation.

In the early years, there was a lot of effort in earthquake prediction, and I spent a long time working on these problems.

But in the past 5 years, we have moved away from earthquake prediction, recognizing that a lot of basic understanding about the Earth and earthquake have to be developed before reliable earthquake predictions——

Senator GORTON. So we are some distance from——

Dr. FILSON. We are some distance from reliable earthquake predictions. There are two pieces to the earthquake prediction problem; one, the scientific problem, which we have not solved, and then the social problem, handing this earthquake, handing this prediction, off to society and having some reasonable response to it. That still is an unsolved problem in my view.

Senator GORTON. Well, tell me again on this map why we have the dubious distinction in Puget Sound of having that nine as our—— was that correct? Do we have the greatest, or rather the potential for the greatest, earthquake?

Dr. FILSON. In my view, the short answer is yes. In my view, outside of Alaska one of the greater potential for very large earthquakes in the United States exists off the coast of the Northwestern United States.

That is the bad news. The good news is these earthquakes probably occur on the order of every thousand years or so. But, this is a major plate boundary. Similar plate boundaries occur off South America and Alaska. These areas of similar plate geometry have given rise to very large earthquakes in the historic past.

VOLCANIC ACTIVITY

Senator GORTON. Do you know enough to tell whether or not a very serious earthquake would be in any way associated with volcanic activity, or are they totally unrelated?

Dr. FILSON. Geologically, they are related. There have been some reports, particularly from South America, where you have a large earthquake, and there is some volcanic eruption shortly following that.

But we do not understand that connection, and it may be just fortuitous or by chance that these occurrences have occurred together in the past.

SYNERGISM OF U.S. GEOLOGICAL SURVEY PROGRAMS

Dr. EATON. Let me step in and add something to that, if I might, because there is a volcano in your home State now. And its springing to life came from the rapid occurrence of a whole series of small earthquakes, which we began to associate with the movement of molten rock up through the crust toward the surface.

These are not big, damaging earthquakes. John is quite right in having said what he said. But, in fact, there is low level seismic activity associated with active volcanos.

Part of the reason I wanted to jump in and say that is, there was one other piece to your first very comprehensive question that I wanted to answer, and this allows me to connect these things.

We run in Vancouver, WA, down in the southwestern corner of the State, the Cascades Volcano Observatory. It is one of three that we operate, one being in Hawaii and the other in Alaska.

We have headquartered there members and specialists from all three of our divisions, from the Geologic Division, from the Water Resources Division and from the National Mapping Division, because the volcano problem—and remember, I said we had 14 active volcanos just in the Pacific Northwest alone—really does threaten in a significant way a number of large communities, Seattle/Takoma being one of them.

We know that in the Takoma and the Puyallup area that there are mud flows from Mount Ranier from previous periods of eruptive activity of Mount Ranier, that flowed down through the areas that those towns are now located. And that potential still exists.

But there is enormous synergism and benefit from having hydrologists, geologists and cartographers working together on this problem.

One of the remarkable things about volcanos is that it is one of the kinds of activity in which, in fact, the topography is dynamic. Elevations change, and the more rapidly they change, the more likely there is going to be very shortly a major eruption.

Again, if the Geological Survey were to be dismembered and the body parts scattered around in a number of different graves, we would lose that synergism altogether.

UNITED STATES EARTHQUAKE OCCURRENCES

Senator GORTON. Let me go back to one question on earthquakes. You started with Memphis. In the history, you know, the 200-plus years of the independence of the United States, was the New Madrid earthquake the most serious from the point of view of strength or dislocation?

Dr. FILSON. It is hard to answer, because we determine the magnitude of earthquakes today from instruments and their instrumental measurements. Of course, there were no instruments measured available at that time.

But, our estimates are from the effects of the earthquake that it was one of the largest earthquakes to occur in the United States on a magnitude on the order of 8 to 8½. There were a series of earthquakes, at least two or three that size, within a few months in that area.

Senator GORTON. You have said the good news for us is that while we have a very serious one, it happens on the order of every 1,000 years. I gather the geology is somewhat different in the Mississippi Valley.

Is that a once every 1,000 years phenomenon, too?

Dr. FILSON. Yes; we don't fully understand the driving mechanism for the earthquakes in that particular part of the country.

There is no obvious plate boundary there. The geometry and the geology is not as clear to us. The seismogenic features, if I can use that term, are not as clear to us as they are in California and the Pacific Northwest.

But some estimates have been made—and again, the orders there are in hundreds of years of recurrence for these earthquakes in that area.

Dr. EATON. In terms of active movement, the geologic evidence in that area is that it has been going on for hundreds of millions of years. It is a very, very long lived phenomena, even from a geologic time scale.

Senator GORTON. Finally, to complete our tour of the country, give me a brief few words about the orange here in the Boston to Washington corridor.

Is that a fault area? Has there in historic times been any serious earthquakes in the Northeast?

Dr. FILSON. There have been serious earthquakes in the 1700's in Cape Ann off Boston. And there continue to be minor earthquakes in the East, particularly in the area of southeastern Pennsylvania.

But again, we cannot identify any active faults, such as we can in California, that give rise to these earthquakes. The general term is given to them as intra-plate earthquakes, which really means we do not quite understand what causes them.

Dr. EATON. There was 110 years ago or so a major earthquake north of New York City. And it has been estimated, because of the fact that the Battery Park area and the two World Trade Center towers are on filled ground, artificially filled ground, that were such an earthquake to take place in the same place north of New York City today, the damage to real estate alone would exceed \$50 billion.

SOUTH FLORIDA/EVERGLADES ACTIVITIES

Senator GORTON. Thank you. I would like, Dr. Eaton, at least a few comments that I know to be of great interest to my friend and member of this subcommittee, Senator Mack, about your activities in south Florida and the Everglades.

What is going on? What kind of funding is there for it? Is that funding adequate?

Dr. EATON. All right. Let me again make some general remarks. And in this case, I will turn to Dr. McGregor to comment.

We are working in that area, as is a number of other Department of the Interior agencies. The Park Service has a concern because of the Everglades. There is a loss of species. The Florida panther looks like it is very greatly endangered.

The problem is one that relates to agricultural practice. In fact, agricultural activities are a source of major nonpoint source of pol-

lution all over the country, and it is something we are monitoring with the National Water-Quality Assessment Program.

So all of this is tied up in concerns that go way beyond the borders of the Geological Survey.

There is, in our request for increased funding, some money specifically designated for work in the Florida area. There is a coordinating group now, with representatives from each of the agencies working in the area that meets on a regular or reasonably frequently irregular basis to talk about the appropriate roles of the agencies.

Bonnie, do you want to take it from there?

SUMMARY STATEMENT OF BONNIE E. MCGREGOR

Dr. MCGREGOR. Sure. The task groups that are working there to help facilitate coordination are at several levels. The Federal task force is composed of assistant secretaries from involved agencies. Local Federal managers meet in a working group. There is also a science working group, and that is one that we figure prominently in, that has been developing a plan for south Florida.

Again, this is an example, I think as Dr. Eaton has said, where we demonstrate again the value of having expertise from three disciplines sitting in one house, the mapping, the hydrology and the geology, because these all come to play.

And, in fact, the whole ecosystem approach that we have used here is to demonstrate how we can integrate those three types of information and, in fact, provide a better handle and a better information base for decisionmaking.

We recently held a workshop in south Florida in January and invited other agencies, Federal agencies, including NOAA, the Sanctuaries Program, which obviously has a concern as the Florida Keys Sanctuary backs up to the Everglades area and the Florida Bay.

We also had a lot of State agencies that were present, the South Florida Water Management District, the State geologist from the State of Florida, and also the Department of Environmental Protection out of the State of Florida.

And what we did was we brought all these people together for a 2 day workshop to lay out for them what our plans were for 1995 in south Florida, to get their comment and input, and to basically help coordinate activities and studies that they may have ongoing from some other venue with some of the things that we were doing.

I came out of the Marine Program, so getting into the Everglades or into that area that requires airboats and, you know, all kinds of innovative ways to get into the middle of nowhere, it requires a great deal of coordination.

And so we felt that this was a good opportunity to maximize anyone going into the area to do studies, to be able to coordinate their data collection and to basically help each other out.

TRACKING WATER MOVEMENT

We actually have four functions that we are doing there in 1995. One of them—obviously, one of the major roles that we have has to do with tracking the water and the water movement through

south Florida, the whole south Florida area all the way—even up above Lake Okeechobee, up into the Kissimmee River area.

So, we were very much concerned with measuring that water and water movement and understanding where it goes in order to put information into models, to better model what will happen.

In fact, this year was an anomaly year. And again, our subdistrict office there was out in force, because there was a lot of water this fall in the Everglades. You may have seen on television where they had to close the northern part of the park because of the extensive flooding.

We actually got people out very quickly with that event, realizing that we were looking at an unusual time, and this is an important time to be collecting data.

So we actually, for the first time, have collected information from the creeks that flow out of the south end of the Everglades in to Florida Bay.

As I said, it is a whole system that goes way up from the Kissimmee River all the way through and into Florida Bay and to the Florida Keys. So it is a huge system for understanding the motion of water.

So we now have some information from an unusual atmospheric period where we had a lot of rainfall in that area, to understand, when we go into a different regime atmospherically, what kinds of things happen in the water flow through the Everglades.

EVERGLADES TOPOGRAPHY

Let me talk a little bit about some of the innovative things that we have been trying. One of the issues that drives a computer model for how water flows is obviously topography.

Anyone who has stood in the Everglades and looked out across the horizon, knows it is relatively flat. So that becomes a very interesting problem as to how do you begin to look at differences in elevation that are very subtle, that are not the normal things that our Mapping Division has on a topo map.

So, using some of the research capability and looking at differential GPS and doing some tests, they did a little pilot. It looks like we, in fact, can improve the resolution of differences of elevation, of the orders of tens of centimeters as opposed to tens of meters.

If we can do this, and we have demonstrated that we think it will work. We are still working on the data, but that is an area where we would like to go in the future to look at additional resources in order to help accelerate or improve the quality of the models for water flow.

WATER EVAPORATION

We also, in that particular area, are looking at one of the other parts of the equation, which is understanding how much water goes when it evaporates and how plants influence evaporation.

So we are going to be doing some monitoring in the area and have talked with the local State agencies and the biologists to see where are the best places in order to set up some of our monitoring, whether it is sawgrass or just what the vegetation is.

WATER QUALITY

Another area that we are looking at is obviously water quality. As Dr. Eaton mentioned the concern with the Florida panther, one of the issues is mercury and understanding how mercury is mobilized in the natural environment and then looking at that and seeing how it then gets mobilized and taken up by organisms and the kinds of problems it may create for them.

So water quality is something that we have done as part of our programs, and we are taking that information into the south Florida area to help with the water quality issues.

We also have an opportunity here to look at what the natural conditions were like. South Florida is a large sponge—because of the carbonate rock it sits on, water flows through it very, very easily. So we are looking at trying to figure out the history of change. What was it like before human intervention in that area? What kinds of vegetation were there? So we have sort of a historic look.

CORAL STUDIES

And, in fact, one of the places we go to understand this history is looking at corals in the coral reef, because they have bands on them just like trees do, the tree rings.

So we can actually see a change in the turbidity of the water when we actually begin dredging the canals in south Florida to help provide farmland in that area, to make it habitable.

The mosquitoes and, I guess, alligators were the things that primarily lived down there before human intervention, but now we obviously are an inhabitant of that whole ecosystem.

So what we are trying to understand is, "What were the changes? And how did they manifest themselves in water flow through the Everglades into Florida Bay and out into the Florida Reef track?" which is very important, obviously, for all of the people that live in the Florida Keys.

So those are some of the areas that we are working in south Florida, and we would intend to continue this work in fiscal year 1996. There is a budget increase for some of the work in south Florida, and mostly it will be doing some expansion of some studies that we tried this year as beginning pilots.

Senator GORTON. Thank you.

Dr. Eaton, your answers have been comprehensive enough so that I know that you are aware of the whole series of questions that we would have for you here today. There are many others, and we will submit the appropriate ones to you in writing, together with those that Senator Stevens left here as well.

CHANGES TO U.S. GEOLOGICAL SURVEY FUNCTIONS

I return now over to what I started out with. In this year, while, of course, we will be dealing with functions and continuity, we are also dealing for the first time in many years with the fundamental question about the place of USGS in the Government of the United States.

I am delighted at your answer that you are trying to break down its various functions and make determinations as to what might be

commercialized, what might be privatized, what possibly might be transferred.

We would like to get that information as promptly as possible, together with what you have done here both formally and informally. And that is a justification for the fundamental mission of USGS, with a particular emphasis on those many functions, some of which we have discussed here today, which in your view simply would not be taken over by the private sector because there is no way effectively to privatize it.

I would like to be able to say with some accuracy that I think these are things which USGS does which are of value to the United States, that will not be conducted unless we do it in this fashion. So it is important for you to list in the materials you give us those functions——

Dr. EATON. All right.

Senator GORTON [continuing]. As well as those which could appropriately either be privatized in one of the broad definitions of that term or where we might actually use the knowledge that you have gained to return money to the Treasury in bigger amounts than we do at the present time.

Dr. EATON. All right. We would be pleased to do that. Certainly the process that we have created and that I described at some length allows us to move immediately to identify the core activities that I think that we would all agree are absolutely essential that the Geological Survey conduct. That is probably the easiest part of the exercise, as you have described it.

Let me just qualify our response in one particular area. The assumption of transferring responsibilities to other parties, of course, requires both the concurrence of the other party and their determining the wherewithal——

Senator GORTON. We can only get your guess as to what would happen there.

Dr. EATON. Right. Right. We would be happy to provide that.

Senator GORTON. Well, you heard earlier the strong support you have from Senator Stevens and the implicit support that you have from Senator Domenici. I join with them.

The examinations and challenges of this sort are pretty good, because it does require you to rethink basic premises which often, for years or decades, we do not even bother to consider.

Dr. EATON. I would agree.

ADDITIONAL COMMITTEE QUESTIONS

Senator GORTON. So if you will help us in that connection, it will help us in doing the right thing as we go through a very difficult appropriations process this year.

There will be some additional questions which will be submitted for your response in the record.

Dr. EATON. Thank you, Mr. Chairman.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Elimination of the USGS

Question: In your opinion, are there activities that are currently performed by the USGS that should be turned over to the private sector?

Answer: Yes, in the recent REGO II review, the USGS identified components of its activities that could be considered for either being commercialized or privatized over the coming several years. These include information distribution services, ship operations, analytical chemistry laboratories, and a portion of the Federal/State Cooperative Program. While many other USGS functions, in theory, could be turned over to the private sector, there would be a number of detrimental effects on USGS programs, such as:

- ▶ major loss of efficiency.
- ▶ Inability to respond rapidly to a broad range of emergencies and earth science issues.
- ▶ Loss of the quality, credibility, and reliability of USGS data bases and scientific information.

Question: What impact would elimination of the USGS have on programs where the USGS cooperates with the States?

Answer: The impact on the States would be considerable. Substantial interaction occurs between all USGS programs and the States, as a fundamental objective of all USGS activities is to be responsive to the needs of its clientele, including State agencies, for earth science information. The nature of the interaction and the specific purposes of the interaction varies with the specific USGS program. Some key examples of USGS - State interactions include monitoring and assessing geologic hazards such as earthquakes and volcanoes, coastal erosion and storms, and providing the information to appropriate State agencies with the responsibility to mitigate geologic hazards and respond to emergencies. Through the State Geologic Mapping component of the National Cooperative Geologic Mapping program, the USGS cooperates with the States in identifying high priorities for geologic mapping and provides matching funds to the States to conduct the work. The mineral and energy resource programs coordinate many of their resources assessment and environmental resource assessment studies with the States, including coal availability and coal quality activities.

If implemented, the elimination of the USGS would likely require State and local agencies to procure basic data and scientific/technical expertise currently available from USGS, at a considerably higher cost from private sector firms. If the concept of Federal-State partnerships were to be abandoned, the multipurpose nature of USGS earth science information, made possible because of its current universal availability, would be lost. Such information would be regarded instead as a private good with access controlled by the private sector provider. Finally, the elimination of USGS Federal-State Cooperative Programs would shift to State and local governments, the entire burden of gathering basic natural resource information needed by them to respond to Federally imposed environmental mandates. This outcome would be contrary to the spirit of other significant commitments contained in the "Contract with America."

State and local governments and the private sector play vital roles in helping the U.S. Geological Survey accomplish the component of its overall mission that ensures the availability of accurate and up-to-date map and geographic data for the Nation. Examples of the types of USGS State and local partnerships that would be affected by elimination of the USGS follows:

Mapping requirements, both State and Federal, have long exceeded USGS capacity to produce maps. State, county, and local governments are willing to share the cost for standard multipurpose products to leverage their funds in acquiring data at a lower cost than would be incurred by a single agency, and at an expedited rate. The USGS National Mapping Program has established approximately 150 cooperative State and local data production partnerships. The private sector as well has been willing to participate in mapping partnerships, to produce the data they need at national standards so data can be exchanged and serve multiple purposes. By sharing the costs with non-Federal users, USGS can accelerate its response to all users' needs more efficiently and at lower Federal cost.

Another type of partnership is competitive cooperative agreements, involving partnership consortia between the Federal Geographic Data Committee (FGDC) chaired by the Secretary of the Interior, and various Federal agencies, State, local, and tribal governments, colleges and universities, professional societies, and the private sector. The consortia are building a national geospatial data clearinghouse to document and search for data. The USGS staffs the FGDC, which, under Executive Order 12906, is developing the National Spatial Data Infrastructure (NSDI) in partnership with State, local, and tribal governments, the private sector, academia, and others. The FGDC's NSDI responsibilities include developing data standards, developing a clearinghouse for geospatial data, and planning a framework of data. The FGDC is using competitive cooperative agreements with State and local governments and others to accomplish this responsibility.

The Water Resources Federal-State Cooperative Program, a unique partnership between USGS and more than 1,100 State and local agencies, provides information that forms the foundation for many of the Nation's water-resources management and planning activities. The Program accommodates this diversity through joint planning and funding (50:50 matching) of systematic studies of water quantity, water quality, and water use on a national basis. Through the pooling of support, USGS is able to conduct studies that lead to an improved understanding of the Nation's water resources to the mutual benefit of all levels of government--at substantial financial savings. Work is directed toward potential and emerging long-term problems, such as water supply, waste disposal, ground-water quality, effects of agricultural chemicals, floods, droughts, and environmental protection. Because rivers and aquifers cross jurisdictional lines, studies and data collected in one county or one State have great value in adjacent counties or States. It is therefore effective to have one agency involved in these studies so that the information can be shared and is comparable from one jurisdiction to the next. The use of standardized methods enables study results to be transferred to similar problems in other areas and to contribute to issues that have interstate, regional, or international significance. The Water Resources Federal-State Cooperative Program:

- ▶ enables assessment of national water issues through an equal partnership with State and local agencies,
- ▶ provides warning of emerging issues before they reach the national spotlight,
- ▶ provides credible, reliable information to States for managing and regulating water resources,
- ▶ supports a basic water data collection network that forms the core of the National Weather Service National Flood Forecasting Network, and
- ▶ provides water data and analyses funded, in part, and used by more than 1,100 State and local agencies to manage water supply and discharge issues nationwide.

Question If USGS were abolished, what would be the source of information currently provided by the USGS to other federal agencies? How would the cost to obtain information from such sources compare with the current cost of the same information from USGS?

Answer There is no source that could provide other federal agencies with the same earth science information that is currently provided by the USGS. Over time, the other federal agencies would need to duplicate the USGS scientific and support infrastructure to

generate the necessary information and/or the private sector would need to be contracted to develop the capabilities to provide the information. In either case the cost to the taxpayer would be substantially greater since there would be substantial duplication of effort. Also, the quality and reliability of the earth science information may suffer, since the infrastructure of the USGS includes established procedures for quality assurance and quality control, and the USGS has extensive data bases and personnel with substantial experience that would be lost. All USGS earth science information is available at minimal or no cost to Federal, State, and local agencies, industry and the public sector. The maximum benefit of USGS information to the taxpayer would be lost, since the same information would either be generated by several different groups or would be paid for many different times. Finally, small users who could not afford to generate the information themselves or pay to have a contractor provide the information would lose the benefit of having USGS information available.

Question: It has been suggested that the mapping activities of the USGS could be turned over to the private sector without any disruption in the services which are currently provided by the USGS. Has any assessment been made of the interest and capability of commercial mapmakers to assume the mapmaking activities that are currently performed by the USGS?

Answer: The National Mapping Program involves not only map production, but mapping coordination; identification of map-user requirements; development and promulgation of map and data standards; dissemination of maps, aerial photographs, satellite images, thematic data, and map availability data; and geographic information systems applications. Although USGS knows of no formal study of commercial capabilities, the agency frequently interacts with members of the private sector, including mapping contractors and professional societies. Although many private companies are interested in participating in the production component of the National Mapping Program, it is the perception of USGS that none are willing or equipped to accept responsibility for a national standardized mapping program that includes applications, coordination, and dissemination of mapping information. The private sector has a wealth of expertise to offer, but that resource is fragmented among many organizations of varying size and selective interests. Commercial organizations are rightly motivated by profit. They cannot be expected to provide standard products for the entire country, which includes many areas where, mapping, although needed, is not profitable. Given the fragmentation, varied interests, and profit motivation of private industry, USGS believes that it is impossible to continue to provide a consistent mapping program of national scope without the critical participation of a Federal agency such as USGS. Furthermore, both USGS and private organizations seem to agree that the better approach is to continue the USGS mapping program and to continue the ongoing effort toward increasing the percentage of contract work performed under the National Mapping Program, not only in production but also in selected other program components.

Question: Another suggestion has been made by mapping societies and others, which would combine the mapping activities now carried out by numerous agencies into one single, civilian mapping agency. How would you view the creation of such a civilian mapping agency?

Answer: USGS has long supported the recommendation of the 1973 National Mapping Task Force that consolidation of Federal mapping activities would be in the best interest of the nation. However, it should be noted that most agencies produce maps for specific purposes, resulting in a wide variety of products. Consolidation of mapping organizations likely would result in significant savings in administration, management, interagency coordination, and shared technology development, but there would be less significant savings achieved from the consolidation of the production programs and products. Although some products can satisfy multiple requirements, the production of specialized products would need to continue to meet the specialized mission needs of various Federal agencies. It would be inadvisable to attempt to merge map-production responsibilities without continuing funding for the merged elements. Although some savings could be achieved

within the production programs, the real benefits would be in the reduction of administrative layers and the elimination of organizational barriers to program coordination. USGS views its National Mapping Program as a logical hub for the proposed consolidated agency, given the widespread use of its maps and geospatial data and its decades of experience coordinating Federal and State mapping activities and requirements.

Question: Even if the USGS is not eliminated, it is very likely that funding for the USGS will be provided at a significantly lower level than the current funding level. Given that a good portion of the work conducted by the USGS is in cooperation with other Federal, State and local government agencies, how do reductions in their funding impact the work of USGS?

Answer: Reductions of funding of other Federal, State, and local government agencies affects the USGS in three ways. The first is in USGS cooperative programs where the USGS does work on a split funding basis for other governmental agencies where they may not be able to match USGS funding and the USGS cannot then use USGS funding. Examples of this effect on USGS funding are as follows:

- ▶ In the National Cooperative Geologic Mapping program, the States may be unable to match funding from the State Mapping component of the program.
- ▶ The USGS is able through reimbursement from Federal, State, and local government agencies, to increase the production of cartographic data and products well over the levels that would be achievable solely through appropriated funds. Many more requirements for data and products have been satisfied in this manner, increasing the number of government applications and studies that have benefitted from the availability of needed data. Reductions in funding from external sources would significantly reduce the level of data production that could be achieved by the USGS, thus reducing the overall data availability to the Nation.
- ▶ The USGS water resources program receives about half its funding from other Federal agencies and State and municipal cooperators. Because USGS is often the only entity capable of carrying out the work that these Federal and State agencies require, reimbursable funding for USGS water resources activities has steadily increased in recent years. However, if reductions in funding to these agencies become significant, it is likely that their ability to fund needed work through USGS will diminish also.

The second way that reductions in funding to other organizations would affect the USGS is work done by the USGS that is completely funded on a reimbursable basis by other government agencies or may result in significant numbers of USGS employees being unfunded, as the reimbursable program of the USGS is about two hundred million dollars.

The third is that the USGS is commonly provided services-in-kind for cooperative work with other agencies. If these agencies are unable to continue funding, then USGS programmatic cooperation would suffer. For example, Federal land management bureaus often provide logistical support for USGS workers in the field. A reduction in this support would significantly reduce the ability of USGS to conduct certain kinds of field work because of increased costs or lack of access to field areas. Also, the benefit of having scientists with different expertise cooperate (loss of scientific interaction/collaboration) with the USGS on its activities would reduce the value-added benefit for USGS information.

Question: How would significant reduction in funding for USGS impact the funding provided by these other governmental agencies?

Answer: Significant reductions in USGS appropriations will adversely impact the ability of the USGS to match funding provided by other government agencies. USGS augments its data production capability by leveraging appropriated funds against contributions from other

government agencies. If the appropriated funds are not available for matching, USGS would be unable to accept contributions from these organizations.

The reimbursable program USGS conducts with other Federal agencies is not dependent on USGS appropriations because the studies are fully funded by the agencies who request the work. However, it is likely that work conducted under the Federal-State Cooperative Program would be affected. Through the Federal-State Cooperative Program, which began in 1895, USGS works with more than 1,100 State, local, and regional agencies in every State, Puerto Rico, and several territories. The distinguishing characteristic of the Cooperative Program is its cost-sharing mechanism: local and State agencies provide at least half of the funds for each investigation undertaken, and USGS does most of the work. The program has proven to be extremely cost-effective, and the number of requests for scientific and technical assistance continues to grow. If appropriations were substantially reduced, USGS would have to reduce monitoring and investigations activities, to the detriment of both the Federal Government and the States.

National Performance Review

Question: According to your testimony, since 1993 the USGS has eliminated six programs for a total savings in budget authority of \$10.5 million, reduced funding in 13 programs, refocused 16 programs to better address current needs, and has consolidated 14 programs to reduce overhead and make them more responsive to current needs. In addition, overall employment in the USGS has been reduced by 1,130, or 10.6 percent, since January, 1994, including a 42 percent decrease in the number of Senior Executive Service positions. Are there further streamlining activities that you are undertaking which will further enhance your operations?

Answer: Yes. Major reorganizations are planned for the National Mapping Division and the Geologic Division. These reorganizations will streamline program operations by significantly reducing the number of headquarters personnel and the number of supervisors. USGS is also participating in another round of buyouts. Employees have been given the opportunity to apply for delayed separation buyouts. All applications must be received by March 31, 1995, but actual separation dates will vary, with several being effective by September 30, 1995, and others in 1996 and some as late as January 1997. The number of personnel involved in this buyout opportunity is not yet known. Also, a strategic planning effort is underway, and program reviews will be conducted as a part of this activity. It is anticipated that some programs will be refocused and redirected during this planning process. The results of this activity are not expected for several months.

Question: How were the savings of \$10.5 million from streamlining used by the USGS? Why weren't some of these savings used to fund the per capita costs for the buyout or the \$1 million required for implementation of the Interior Department Electronic Acquisition System (IDEAS)?

Answer: The actual savings resulting from eliminating various programs since FY 1993 has been \$10.9 million. These savings have come from the following programs: Water Resources Research Grants (\$1.8 M); Side-Looking Airborne Radar (\$0.5 M); Nuclear Waste Hydrology (\$1.3 M); Oil Shale Investigations (\$0.6 M); National Water Information Clearinghouse (\$0.6 M); Coordination of National Water Data Act (\$1.3 M); Improved Instrumentation (\$0.3 M); and Water Resources Research Institutes (\$4.5 M). These funds were not available to the USGS for redirection to other areas. They went away in the budget process (i.e. less money was available in the next year's budget).

Water Resource Investigations

Question: The USGS Water Resources program is the primary source of scientific information on a wide range of water resource issues for the Nation. USGS provides data

that help private sector and public agencies address problems such as water supply, floods, non-point water source water pollution, and remediation of contaminated ground water. If the USGS were abolished, who would provide hydrologic data to other Federal water management agencies, including the Army Corps of Engineers and the Bureau of Reclamation?

Answer: The rapid growth in other Federal agency (OFA) requests for USGS assistance clearly indicates the value and relevance of USGS capabilities to the national interest, specifically in addressing real needs to the Federal government in meeting its environmental responsibilities. If USGS were eliminated, Federal agencies who now rely heavily on USGS information would have to develop their own in-house expertise. This would result in duplication of effort across government and increased costs for scientific monitoring, investigations, and analyses. Having the States or the private sector assume USGS responsibilities is not a reasonable alternative because the resources which USGS monitors and investigates often cross State and international boundaries, making it imperative that research and investigations be conducted by a single entity with a national focus. There are two primary reasons for continuing the study of our Nation's water resources at the national level.

- ▶ National consistency of approach in the study and analysis of water resources is critical to developing reasonable legislation and a meaningful inventory of water resources quality and trends.
- ▶ Objectivity in the collection and analysis of water information is imperative. Because USGS does not have water management, development or regulatory responsibilities, the agency has maintained a unique position of collecting and interpreting data that are accepted as credible by government agencies at all levels, the courts, and the private sector.

Question: In FY 1996, the request for the National Water-Quality Assessment Program is requested at a level of \$64,463,000, an increase of \$6.3 million, or about 11 percent above the FY 1995 level of approximately \$58.1 million. What specific activities will be funded with the additional \$6.3 million?

Answer: The proposed increase for the National Water-Quality Assessment Program will permit the continuation of planned assessment activities including:

- ▶ resume the 5 study unit studies (Northern New England Basins, Northern Rockies Intermontane Basins, Great Salt Lake Basins, Kanawha/New River Basin, and Southern High Plains) that were discontinued in FY 1995
- ▶ begin data collection in the 15 studies that began in FY 1994
- ▶ continue national synthesis activities for pesticides, nutrients, and volatile organic compounds
- ▶ prepare interpretive reports defining the status of water quality in the 20 study unit investigations that began assessment activities in FY 1991

Question: How much of the requested funding will be used to resume five study units which were discontinued in FY 1995? What was the impact of delaying these studies?

Answer: The five studies to be reinstated in FY 1996 are Northern New England Basins, Northern Rockies Intermontane Basins, Great Salt Lake Basins, Kanawha/New River Basin, and Southern High Plains. The budget request for each study is about \$1 million, resulting in a total of about \$5 million. These studies need to be reinstated to ensure truly national coverage in the NAWQA program, from both a geographic and topical perspective (i.e., mining, Northern Rockies; industrial organics in rivers, Kanawha/New

River). The 60 studies that comprise the NAWQA Program cover about half of the conterminous United States, and about two-thirds of the ground-water and surface-water use and population served by public water supply. Any reduction in the number of study units undermines the program's ability to characterize a large representative part of the Nation's water quality. We believe that the concept of a "national" assessment must be based on studies of a large representative part of the resource. If we cover less than half of the U.S., then the credibility of national-level findings from NAWQA becomes suspect.

Question: What would be the impact of not providing the additional \$6.3 million?

Answer: A guiding principle of the NAWQA Program is to strive for quality in the assessment activities for individual studies. We propose not to compromise the quality of an individual study but rather reduce the number of studies that are underway at any given time to accommodate funding constraints. In addition, funding for other components of the NAWQA Program such as methods development activities and national synthesis studies will be proportionately reduced to meet funding limitations. The principal aspect of a strategy to meet a budget target that is level with FY 1995 is to reduce the number of studies underway. The five studies proposed to be reinstated would not be reinstated in FY 1996. Estimated cost of these studies in FY 1996 is \$1 million each. In priority order, from highest priority to lowest priority, the studies are Great Salt Lake Basins, Northern New England Basins, Northern Rockies Intermontane Basins, Kanawha-New River Basins, and Southern High Plains. The additional \$1.4 million needed to meet the FY 1995 funding level in FY 1996 would be derived from reductions in methods development activities and national synthesis studies.

Each of the five studies proposed for reinstatement in FY 1996 has unique environmental and cultural settings, and is affected by water-quality issues that are important building blocks for a comprehensive national assessment. Major water quality issues in these studies include:

Great Salt Lake Basins -- Utah, Idaho, Wyoming

- ▶ Contamination from industrial and urban land uses in ground-water recharge areas along the Wasatch Front
- ▶ Leachate from mine and uranium tailings and waste from metals refineries in urbanized areas along the Wasatch Front
- ▶ High nutrient concentrations in streams related to grazing and feedlots

Northern New England Basins -- Maine, New Hampshire, and Massachusetts

- ▶ Lack of information on occurrence of toxic compounds in ground water and surface water
- ▶ Elevated concentrations of naturally occurring trace elements and radon gas in ground water
- ▶ Effects of atmospheric deposition on headwater streams
- ▶ Chemical loadings to coastal waters

Northern Rockies Intermontane Basins -- Montana, Idaho, and Washington

- ▶ Includes Clark Fork, Coeur d'Alene, and Spokane River basins
- ▶ Sedimentation from timber harvesting and agriculture
- ▶ Toxic metals in surface and ground water related to mining

Kanawha-New River Basin -- West Virginia, Virginia, and North Carolina

- ▶ Organic and trace element contamination of streams related to chemical processing industries
- ▶ Contamination related to coal mining, atmospheric deposition, timber harvesting

- Fecal contamination, especially in the New River Gorge

Southern High Plains -- Texas and New Mexico

- Nutrient contamination of ground and surface water (especially playas) related to dairies and feedlots
- Contamination (VOCs, chloride, and metals) related petroleum exploration and production
- Contamination (pesticides and nutrients) in areas of intensive agriculture (especially cotton)

If assessment activities in the Southern High Plains study are not conducted, an important cotton producing area of the country will not be included in our national analysis on pesticides and nutrients. If the Kanawha-New River study is delayed, an important chemical manufacturing area will not be included as part of the national assessment of organic compounds. If the Northern Rockies study is delayed, an important mining area will not be included. Similarly, if the Northern New England study is delayed, the effects of loadings to important coastal areas will not be assessed, and if the Great Salt Lake study is not studied, an important urban area in the arid west will not be included in our assessment of urban-related organic compounds.

Question: According to the justifications (page 206), "intrinsic remediation--in which contaminants are contained on-site but allowed to biodegrade naturally--may be a better alternative than the pump-and-treat or dig-and-remove approaches presently being employed at many ground-water contamination sites--especially Superfund sites." What implications does this have for remediation of federal hazardous waste sites and the funding required to remediate such sites?

Answer. The estimated cost of cleaning up approximately 11,650 Department of Defense, Department of Energy, and other Federal agency hazardous water sites totals more than \$270 billion over the next 30 years. The following table breaks down these costs by agency.

<u>Agency</u>	<u>Estimated Number of Sites</u>	<u>Estimated Cost of Cleanup (Billions of 1990 Dollars)</u>
Department of Defense	7,300	30
Department of Energy	4,000	240
Other Federal agencies	350	Not Available
Total	11,650	>270

Remediating Federal hazardous waste facilities is a large burden to the Nation's economy, and any technology that can achieve cleanup goals while reducing costs will be of great benefit to the Nation. Intrinsic bioremediation, a technology that takes advantage of naturally occurring microorganisms to clean up contaminated ground water, promises to be a cost effective alternative to conventional treatment of many sites. If just 10 percent of the Federal hazardous waste sites could be treated using intrinsic bioremediation, billions of dollars would be saved.

USGS has studied the potential for intrinsic bioremediation at two sites located on the Marine Corps Air Stations near Beaufort, South Carolina. One site was contaminated by jet fuel, the other by gasoline. The costs of remediating these sites by conventional methods were estimated at \$1 million. Based on USGS findings, the South Carolina Department of Health and Environmental Control agreed that intrinsic bioremediation was the most appropriate treatment technology for these sites. The cost of using intrinsic bioremediation at these sites is estimated at one-tenth the cost of conventional methods.

Nitrogen in Watersheds

Question: Results from USGS studies indicate that the dominant source of nitrogen in watersheds varies from region to region. For instance, in the Northeast, atmospheric deposition is the dominant source of nitrogen in most watersheds. In the Western U.S., where agriculture is intensively practiced, commercial fertilizers are the dominant source. To what extent have the results of the USGS studies been accepted and used to modify existing pollution control regulations governing pollution prevention efforts?

Answer: The USGS results on nitrogen sources in watersheds have been reviewed by the scientific community, were presented at national scientific meetings, and have been printed as news stories in widely-read journals and as a USGS Fact Sheet. We have also made the data available to the policy community. They were presented to Congressional staff at an EESI (Environmental and Energy Study Institute) briefing in July 1994, and to U.S. EPA's Office of Policy, Planning and Evaluation. Detailed information has been provided to U.S. EPA's Office of Water for their testimony regarding the Clean Water Act, and to the Office of Technology Assessment and the General Accounting Office as input to their analysis of the Farm Bill. Much of the legislation that these results apply to, particularly the Clean Water Act and the Farm Bill, is currently pending consideration. They also pertain to future deliberations on amendments to the Clean Air Act. There are however, several specific cases where these results have already led to modifications of State and local pollution prevention efforts:

All State agencies developing tributary nutrient reduction strategies as part of the Chesapeake Bay Restoration Program were made aware of these results. The State of Pennsylvania increased monitoring activities in response to the large nutrient loads measured in one basin. USGS studies of nitrogen over the last decade have directly influenced the following modifications to Pennsylvania regulations:

- (a) new emphasis on non-point sources
- (b) incorporation of animal-unit criteria for nutrient management
- (c) credits in management plans for manure as a nitrogen source, with less focus on commercial fertilizers
- (d) insistence by State and USDA on nutrient plans to prevent high loads of nitrogen to ground water
- (e) cost sharing programs to encourage manure storage structures for manure management
- (f) recognition by the Chesapeake Bay Program that loads from forested areas were not controllable--this led to the use of only controllable loads as the basis of criteria for goal attainment

In Colorado, the State Department of Agriculture has begun an effort to persuade farmers to implement voluntary measures of reducing nitrogen inputs to groundwater, and to the South Platte River, based on the USGS findings.

The State of Texas requested additional information on nutrient loads in 60 streams in its Clean Rivers program in response to this information.

In Georgia, where the Army Corps of Engineers and the State of Georgia were sued by the States of Alabama and Florida, the USGS was asked to provide information on nutrients and other chemicals as part of a court mandated study of the Apalachicola, Chattahoochee, and Flint river basins.

Oil and Gas Assessment

Question: The USGS just completed an assessment of the amount of oil and gas that could be added to the proven reserves of oil and gas in the United States. The assessment took approximately five years to complete and identifies technically recoverable resources.

How do the results of the latest assessment compare with the previous assessment that was conducted in 1990? To what extent has growth occurred in the known oil and gas reserves?

Answer: In general, the comparison shows that the total estimates for oil and gas doubled in 1995 compared to the previous estimates for onshore US, and beneath State waters. Substantial, measured growth has occurred in known oil and gas reserves. Based on this measured growth, new statistical methods were developed to estimate the potential additions to recoverable oil and gas resources by field growth in the 1995 assessment. Reserve growth accounts for about 53% of the total for oil resources and 30% of the total for gas resources

Question: How much of the additional reserves are likely to be developed?

Answer: The USGS does not estimate the amount of future development of oil and gas reserves and resources. The extent of development of additional reserves will depend on economic forces and implementation of government energy policies.

Question: To what extent will the development of the additional reserves depend on technology advancements?

Answer: The USGS estimates are considered to be "technically recoverable resources" based on present day oil and gas exploration and development technology. No technology development is necessary to add these resources to the reserve base. However, new developments in technology may speed addition of these resources to the national reserve base.

Question: What portion of the reserves are located in what would be considered "environmentally-sensitive" areas?

Answer: The reserves located in "environmentally-sensitive" areas occur primarily in northern Alaska and the coastal wetlands of the Gulf of Mexico. These two areas contain a significant fraction of the undiscovered, technically recoverable oil and gas resources which leads us to estimate that up to 25 percent of the undiscovered resources may be in environmentally sensitive areas. In some areas, especially the Gulf of Mexico, these resources may be associated with currently producing fields and the environmental impact of development should be minimal.

Critical Ecosystems

Question: In FY 1995, the USGS requested \$11.8 million for critical ecosystems research and assessments in South Florida and in other areas. The Conference Committee provided approximately \$5.1 million for these activities in FY 1995. There was some concern at the time that many of the proposed activities were duplicative of activities funded through other agencies within the Interior bill. What activities are being carried out with the funding provided in FY 1995?

Answer: In FY 1995, funding for critical ecosystems research and assessments supports a program in two locations, South Florida and San Francisco Bay and Delta. The programs provide scientific support and technology to agencies seeking to manage natural resources and restore ecological functions, and cover a range of activities related to hydrology, wetlands geochemistry, toxic contaminants, sediment transport, ecosystem history, map production, and scientific support for hydrologic modeling. In San Francisco Bay and Delta, the funds are also being used to enhance access to USGS information collected inside and outside of the program. Some of the projects are monitoring activities, others are research.

Question: Are any additional funds requested for FY 1996 for these same activities? If so, how much and where are they requested in the USGS budget request?

Answer: Additional funds have been requested to cover new and expanded activities in South Florida, bringing the total for South Florida to \$8 million. The program and budget for San Francisco Bay would be approximately the same as in FY 1995. The USGS will also be adding another location in FY 1996. Klamath/Trinity River Basin in California and Oregon, one of the original sites FY 1995 budget, the Southern Appalachians, and Chesapeake Bay are strong contenders. The site of the new activity will be finalized following discussions with client agencies to determine areas of greatest scientific need. Funds requested for providing scientific support in the new ecosystem total \$1.2 million.

The table below provides details on which line items contain funds for ecosystem activities

Funds for the Critical Ecosystem Program
(Dollars in Thousands)

<u>Line Item</u>	<u>1995 Base</u>	<u>1996 Additions</u>	<u>TOTAL</u>
Data Collection and Analysis	1594	1800	3394
Core Program Hydrologic Research	440	0	440
Toxic Substances Hydrology	567	500	1067
Hydrogeology of Critical Aquifers	0	500	500
Marine and Coastal Geologic Surveys	835	1200	2035
Continental Surveys	110	0	110
Mineral Resource Surveys		500	500
Data Cooperatives/Partnerships		174	174
Geographic and Spatial Information Analysis		800	800
Cartographic and Geographic Research	1494	6	1500
TOTAL	5040	5480	10520

Question: How are ecosystem activities coordinated within the Interior Department to avoid duplication?

Answer: Most of the coordination to prevent duplication takes place ecosystem by ecosystem, since that is the area where activities have the potential to overlap.

In San Francisco Bay, Interior Bureaus and other agencies meet to coordinate scientific activities under the auspices of the Interagency Ecological Studies Program. USGS researchers have worked in the area for many years and are frequently brought into discussions with management agencies, which often seek their expertise. Few other agencies have large ecological research programs.

In South Florida, the Department of the Interior has established a framework for coordination, the South Florida Ecosystem Restoration Task Force, chaired by Assistant Secretary Frampton. Associated with the Task Force is the South Florida Ecosystem Restoration Working Group, a managerial-level coordination group at the local level, and the Science Subgroup, the coordination mechanism for identifying scientific information needs and organizing agency activities. USGS works within this framework and has established additional mechanisms to guard against duplication.

- ▶ The Survey has increased its contacts with clients and collaborators in South Florida through its active membership on the South Florida Ecosystem Restoration Working Group, Science Subgroup and Public Information and Education Working Sub-Group (cochaired by USGS). The USGS is also represented on a similar interagency group which coordinates scientific activities in Florida Bay.
- ▶ The USGS also maintains extensive contacts with State and local agencies. USGS scientists and managers are represented on the Technical Advisory and Science

Advisory Committees of the Governor's Commission for a Sustainable South Florida where they represent the USGS and Federal physical science issues in general

- ▶ USGS has established a prioritization process that involves other agencies at several points. Agencies are consulted in the development of proposals. All proposals are sent to those agencies for input on their priorities for scientific information. For the FY 1995 program, USGS received input from the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), National Park Service (NPS), U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (Corps), the Bureau of Indian Affairs, the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Agriculture, Agricultural Research Service, and Natural Resources Conservation Service, and the National Biological Service. The Survey used those priorities to help determine funding for projects. After the program was formulated, the Survey met with the State and Federal agencies and Native American tribes to ask for additional input to each project to ensure that the projects were well coordinated with agency activities, nonduplicative, and would meet the specific needs of all parties. At the meeting and in follow-up letters, participants in those discussions indicated that they were pleased with the openness of our process and the opportunities for involvement that it provided. The process was praised by members of the Task Force and Science Subgroup and held up as a "model" for other agencies.
- ▶ USGS participates in all relevant coordination meetings on individual topics. For instance, several USGS scientists attended a mercury coordination meeting called by the EPA in December. The USGS has had further confirmation, in areas like mercury where many agencies are working, that our research is not duplicative of others. A letter to the USGS from the mercury coordinator for the FDEP stated, "I am puzzled by the perception that your proposal is redundant or unduly overlaps with others' for I am not aware of any similar work planned or in progress in Florida or, for that matter, anywhere in the Southeast. I have been active in coordinating mercury-related activities in Florida for five years, planning or research program for three, and know all the participating agencies or individuals, but I am unaware of any planned work that would conflict with yours. I do know that the EPA lab in Athens, Georgia has recently funded three projects with USGS researchers and others, but these projects are complementary to yours, not overlapping." (A copy of the letter is attached.)
- ▶ The USGS works closely with agencies that do similar work. For instance, instead of duplicating the NPS measurements of flows into Florida Bay, there is close collaboration between USGS and NPS. USGS helped NPS put in a water flow monitoring station and calibrate it, and will put in 3 to 4 others within the next year working alongside NPS personnel. Each agency brings facilities, expertise, or support without which the project would not be possible and critically needed information could not be obtained.

DDT Contamination

Question: As a result of studies of water samples collected from the Yakima River Basin in Washington State from May 1988 through December 1990, the USGS found that DDT concentrations in water commonly exceeded the chronic-toxicity criterion established by the EPA and adopted by the State of Washington for the protection of freshwater aquatic life. In addition, concentrations of DDT in fish in the Yakima River Basin are among the highest in the Nation and commonly exceed the guidelines established by the National Academy of Sciences. Has this problem been detected in other river basins in Washington State or elsewhere in the country? If so, how do the concentrations in these other river basins compare to the concentrations detected in the Yakima River Basin?

Answer. Fish in the Yakima River Basin have among the highest concentrations of DDT plus DDE plus DDD (Total or T-DDT) in the Nation, as suggested by a comparison of the USGS data to a national study of fish collected by the U.S. Fish and Wildlife Service at 112

stations in major U.S. rivers in 1984-85. The median concentration of T-DDT in fish collected in the Yakima River Basin (about 1.3 micrograms of T-DDT per gram of whole fish) is greater than concentrations of T-DDT in fish collected at 92 percent (103) of the 112 stations sampled nationwide. Median concentrations of T-DDT are about four times higher than concentrations in other western streams sampled from 1970 to 1986 by the U.S. Fish and Wildlife Service.

The highest average concentration of T-DDT in fish was measured during 1984-85 from the Yazoo River in Mississippi (greater than 5 micrograms of T-DDT per gram of whole fish). Other concentrations of greater than 1 microgram of T-DDT per gram of whole fish (guideline for the protection of fish predators) were in fish from intensively-farmed areas of the Arkansas and lower Colorado Rivers, the Rio Grande, the Delaware River, and Lakes Michigan and Ontario.

Occurrences of DDT in the water column as high as those in the Yakima Basin have been found in an intensively-farmed area of Mississippi, where the average T-DDT was 0.11 micrograms per liter of water, as compared to the aquatic-life criterion of 0.001 micrograms per liter. As in the Yakima, the culprit appears to be soil contaminated with DDT used 10 or more years before. Other areas where DDT was widely used on agricultural land during the 1950's and 1960's, and where erosion is delivering large amounts of sediment to streams, are also candidates for this situation.

Question: What is the length of time that it takes DDT to fully break down in soils? How long are DDT residues expected to be a threat to river basins?

Answer: Because DDT takes so long to breakdown, this problem has not been studied long enough to give a definitive answer. The breakdown of T-DDT in soils is slow because, despite the ban on the production and distribution of DDT in 1972, concentrations of T-DDT in: (1) water samples from the Yakima River commonly exceeded EPA's chronic-toxicity criterion for the protection of freshwater aquatic life from 1972 to 1991; (2) agricultural soils and stream sediment still contain as much as 2,100 micrograms of T-DDT per gram of sediment; and (3) fish collected in the Yakima River in 1989-90 are similar in their high T-DDT concentrations to fish collected there from 1970 through 1976.

Based on the observed persistence of T-DDT in the Yakima River Basin since 1972, agricultural soils could be a large and long-term reservoir of T-DDT to streams and fish in the basin for decades to come. Similar conclusions have been reached in Mississippi.

State Water Resources Research Institutes

Question: The FY 1996 budget request includes no funding for the 54 State Water Resources Research Institutes. In FY 1995, the Institutes received a total of approximately \$4.5 million, including \$233,000 for program administration. What is the basis for eliminating the funding for the Institutes?

Answer: The Institutes program, though very important, supports the USGS core mission less than other funded programs. By design, the programs of the Institutes are to be focused on priority needs of the State and are not required to contribute to national data bases or resolve multi-State water issues. Funding from the States and from Federal agencies such as the National Science Foundation, Environmental Protection Agency, and Department of Agriculture, along with specific project related funding from USGS, will continue to support water science in the States.

Despite the loss of line item funding, USGS will continue to provide support to university research in two ways. The first is through funding provided to university professors through the Institutes in support of existing USGS line item programs such as the Federal-State Cooperative Program and the National Water-Quality Assessment Program, and in support of reimbursable programs such as those with the Department of Defense and the

Department of Energy. The second is through a student internship program, which provides funding from USGS projects to Institutes for support of university students working alongside USGS scientists and technicians. Although these arrangements will not compensate for the loss of line item funding, they provide limited supplements to other sources of Institute funding and facilitate continual coordination with USGS programs.

Question: If Congress reauthorizes the Institutes, would the Administration support additional funding for the Institutes within the overall funding level requested by USGS?

Answer: No. Despite the small increases in the President's Budget for USGS for FY 1996, we anticipate significant reductions in appropriations in coming years. The result of these reductions will be a reduced capacity for USGS to perform its basic mission of providing water data for the health and safety of the public. In this light, we would not support funding the Institutes within the overall funding level.

Question: Are any of the activities performed by the Institutes duplicated elsewhere?

Answer: As far as we are aware, the States have no other mechanism for the types of water resources research coordination activities or the technology and information transfer activities that are performed by the Water Resources Research Institutes.

Question: What will be the impact of not funding the Institutes? What information will not be available that has previously been available?

Answer: Based on a recent survey conducted by the Institute Directors, we believe the following would happen if the Institutes received no Federal funding in FY 1996:

- ▶ about one-half of the Institutes would close
- ▶ one-third of the Institutes would be reorganized and folded into other organizations in their universities, and would no longer function as Water Resources Research Institutes
- ▶ the remainder of the Institutes would continue to operate much as they have in the past, though they would not be bound by the mandates and goals of the Water Resources Research Act

It is difficult to say what kind of information would not be available if funding for the Institutes were discontinued, since the Institutes' research agenda changes from year to year; however, following are some examples of the types of research the Institutes have conducted in the past:

- ▶ The Virginia Water Resources Research Center sponsored a 2-year project on a Colorimetric Viral Detection Technique which has been patented and is now under commercial development by a private firm in conjunction with the Virginia Center for Innovative Technology.
- ▶ Small grants provided by the North Dakota Water Resources Research Institute have resulted in founding of a new company and receipt of joint funding with the Unisys Corporation of St. Paul in the amount of \$1.6 million for commercialization of the Rapid Optical Screening Tool for ground-water contaminants. The funding award is from the Advanced Research Projects Agency.
- ▶ The Alaska Water Resources Center developed an internationally recognized method to assess the extent of water and soil contamination caused by oil spills.
- ▶ A watershed study on Moores Creek in Arkansas resulted in adoption of agricultural Best Management Practices by private landowners and State and Federal agencies for the control of non-point source pollution.

- Research at the New York Water Resources Institute has been instrumental in the development of Watershed Protection Programs for New York City water supplies, which will lead to substantial cost savings as the city complies with the Safe Drinking Water Act.

Question: In the Statement of the Managers accompanying the Conference Report for the FY 1995 Interior bill, the USGS was "to include with the fiscal year 1996 budget submission a report which identifies specific options for integrating the expertise available through the water resources research institutes into the full range of the Department's water resources programs. In addition, the Secretary shall consult and coordinate with heads of appropriate departments and agencies with water research requirements to ensure the utilization of the water resources research expertise and capabilities of the institutes to the extent feasible." Why was such a report not included in the budget submission for FY 1996?

Answer: Because the President's FY 1996 budget requests no funding for this program, we did not submit with the budget the requested report describing proposed options to integrate the Institutes into the water resources programs of the Department and other Federal agencies, and to introduce competition into the distribution of Federal funds among the Institutes.

Question: To what extent has the Secretary consulted with other departments and agencies on the utilization of the research expertise of the Institutes?

Answer: The responsibility for consulting and coordinating with the heads of appropriate departments and agencies to ensure the utilization of the expertise and capabilities of the Institutes has been delegated to USGS by the Secretary. USGS proposes that the following actions be taken:

- Other Federal agencies should be encouraged to utilize the student internship program being implemented by USGS, with USGS facilitating the necessary transfers of funds to effect such utilization.
- The Institutes propose to create a Federal liaison committee to facilitate consultation and coordination, and the Department proposes that its agency staff be encouraged to participate on the committee if asked. This committee could also assist in setting national research priorities.
- The Department proposes to identify and provide for coordination between the Institutes and other Federal water programs as opportunities arise. For example, the Department will describe the capabilities of the Institutes to the water-related subcommittees of the Committee on the Environment and Natural Resources, National Science and Technology Council.

Scientific Assessment and Strategy Team

Question: In response to the flooding in the Midwest that occurred in 1993, the White House established the interagency Scientific Assessment and Strategy Team (SAST). The purpose of the team is to provide scientific advice and assistance to Federal officials responsible for making decisions about flood recovery and river basin management in the Upper Mississippi River basin. What is the funding level for USGS participation in SAST in FY 1995 and FY 1996?

Answer: The funding level for SAST in FY 1995 is \$7.2 million and there is no funding in FY 1996. The funds to support SAST in FY 1995 are FY 1994 no-year emergency supplemental funds.

Question: What changes to federal policies or recommendations have been made as a result of the SAST efforts?

Answer: More than 70 policy recommendations have been made as a result of the SAST activity. The Administration has established a team to determine which recommendations should be implemented. The recommendations are scientific in nature and support the emerging flood plain policy being developed by the Interagency Floodplain Management Committee. The principal recommendation made by the SAST is to manage the Upper Mississippi River Basin as a system with resulting information being provided to Federal, State, tribal, and local governments in order to work together to manage this large, complex river system.

Question: Have any changes been made to floodplain management as a result of the SAST team efforts?

Answer: The SAST recommended extending the waiting period between the purchase of flood insurance and the effective date of the policy. The recommendation was based on analysis that revealed a trend toward purchases shortly before expected flooding. Congress extended the waiting period to 30 days with enactment of the Community Development and Regulatory Act of 1994, PL 103-325. Geographic information system applications were used to identify the areas of highest priority aquatic habitat sites. This information is being used along with other data to help prioritize and administer the program to acquire property that is at risk and to relocate the residents. Geographic information system technology also was used to assist with the relocation of communities by identifying potential relocation sites.

Question: When will the activities of the SAST be complete? What are the expected total costs for this effort?

Answer: The majority of the recommendations should be decided on in FY 1995 by the Administrations team. One study is not expected to be completed until FY 1996 and publication of the results from all SAST work would be available in early FY 1996. The SAST activity is not funded beyond the availability of the no-year emergency supplemental funds. The overall estimated cost for the SAST activity for all agencies is \$15 million.

Earthquake Hazards

Question: The FY 1996 budget request includes \$50,842,000 for the earthquake hazards reduction program, which is an increase of \$1.9 million, or about 4 percent, above the current FY 1995 level of \$48.9 million. According to the justifications, the additional funding will be used to support key urban seismic hazards, particularly in the San Francisco, Seattle, and Memphis areas. What specific activities will be supported with the additional \$1.9 million?

Answer: With the proposed increase, the USGS will exploit rapidly changing technologies in computers, telecommunications, and instrument design to provide rapid notification of earthquake shaking effects. The need for this rapid notification is particularly acute in urban areas, where modern cities with their web of sophisticated lifelines, communications systems, and financial networks are extremely vulnerable. A large earthquake in our metropolitan areas, as demonstrated by the Northridge and Kobe earthquakes, will cause considerable damage and disruption of vital city functions. The USGS will develop the seismic recording and analysis systems necessary to produce maps of the shaking pattern, in real time (that is as the ground is still shaking). Because these maps require many seismometers, the ability to transmit large volumes of data in real time, and very fast computers, producing such maps was not possible even two years ago.

The first phase of the development of the urban hazard seismic system is underway in the greater Los Angeles area (using funds provided by Congress as part of the Northridge supplement). There, 200 new seismic stations are being installed, high-precision deformation stations are being sited, digital communications links are being developed, and display software, capable of producing estimated patterns of ground shaking and ultimately predicted losses, is being developed. With the proposed increase, the USGS will use the experience gained in Los Angeles to begin development of these systems in San Francisco, Seattle and Memphis. In Seattle, San Francisco and Memphis, we would begin developing the needed data telecommunication links, purchase and begin installing the seismic instruments, and expand the computer processing/software capabilities to handle the increased number of new signals. In all three areas, demonstration projects are scheduled to show emergency response officials the projected capabilities of the new system and begin to adapt the outputs to local needs.

Question: What would be the impact of not providing these additional funds?

Answer: Without additional funding, the USGS would limit its activities in San Francisco, Seattle, and Memphis to planning, minor upgrades to computer systems (software), and discussions with local officials about their needs and potential uses of these new systems. Consequently, these urban areas would remain at greater risk and more vulnerable to major economic loss, life safety and long term disruption of vital functions.

Northridge Earthquake

Question: The USGS received approximately \$4.5 million in dire emergency supplemental funding in FY 1994 to aid in the response to and follow-up work concerning the Northridge earthquake. What has been accomplished to date with the funds provided through the FY 1994 emergency supplemental in response to the Northridge earthquake?

Answer: The Northridge supplemental was allocated for three purposes: (1) strong-motion instrumentation in southern California, (2) real-time seismic instrumentation in southern California, and (3) technology transfer. Work has begun to upgrade strong-motion recording in southern California and to improve the seismic network to improve real-time earthquake information. Meetings have been held to develop plans for installing and operating a new integrated seismic system that will consist of 200 stations recording strong ground motion and also quickly sending earthquake information to emergency response organizations. The planning committee consists of USGS scientists and engineers, Caltech scientists and engineers, and others. The USGS contributions are part of a larger project with contributions from Caltech and private industries in southern California.

A software development team of USGS and Caltech personnel has begun to design the new data acquisition system. Plans are underway to spend about \$1.0 million during the next quarter. Part of the money will be for field units to record the seismic data and part will be for hardware that will facilitate a new telemetry technology used in sending digital seismic data from field stations to the central recording site in Pasadena.

As part of the technology transfer activity, a 32-page newspaper insert about earthquake hazards in southern California is nearly completed for distribution during Earthquake Preparedness Month in April 1995. The insert focuses on three issues: (1) earthquakes are understandable, (2) earthquakes are inevitable, and (3) earthquake damage is preventable. USGS Northridge supplemental funds are being combined with funds from the California Office of Emergency Services, the National Science Foundation, and funds collected in a fund raising effort led by the Southern California Earthquake Center aimed at private companies in southern California to pay for layout, design, and printing of the insert.

The USGS, in cooperation with the National Science Foundation, has also funded a project to make available to the public important strong ground motion data that was collected during the Northridge earthquake by the University of Southern California. The information

will be used by local planners and engineers to better understand the effects of strong ground motion on buildings and lifelines and, ultimately, to strengthen design criteria.

Question: What are some of the "lessons learned" from the Northridge earthquake? Did USGS earthquake hazards mitigation activities make a difference?

Answer: To mitigate damage from an earthquake, it is necessary to characterize the source zones of past earthquakes, the patterns of strong ground shaking, and the responses of the built environment to the shaking. The Northridge earthquake resulted in 'lessons learned' in each of these areas and confirmed our concerns about the hazard associated with poorly understood hidden thrust faults that underlie the Los Angeles area. In the area of strong ground motion, the Northridge earthquake provided documented proof that ground motion directly above the fault plane could be higher than previously thought possible. The velocity of the ground shaking recorded during Northridge, critical to the safety and survival of large buildings, was much larger than anticipated (exceeding 170 cm/second).

The response of steel framed buildings during the Northridge earthquake cast doubts on the theory of safety of steel framed structures. The steel's ductile properties had led engineers to conclude that the steel frame would bend to absorb stress from the shaking, thus preventing collapse. Cracks found in the welds of steel frame buildings in the Los Angeles area are apparently due to changes in the material's properties, possibly occurring during the welding process. This issue is not yet resolved, but research is being supported by NIST and NSF to determine the cause of these stress cracks.

Perhaps the most important lesson of Northridge is the need for retrofitting older structures. The best building code in the world is of no use on buildings or structures built prior to the code's enactment. All but one of the freeway bridges that failed during Northridge were on schedule for retrofitting. A parallel to this can be seen in the 1995 Kobe, Japan earthquake. Newer buildings, built to more stringent codes and using more modern mitigation technologies, were much less affected by the strong ground shaking than older buildings.

An example of USGS hazards mitigation activities making a difference can be seen in the improved performance of the LA Dam during the Northridge earthquake, as compared to the Lower San Fernando Dam in the San Fernando earthquake. The partial failure of the 142-foot-high Lower San Fernando Dam from strong shaking during the 1971 San Fernando, California earthquake (magnitude 6.7) threatened catastrophic release of waters of the Lower Van Norman Reservoir into a downstream residential area of 80,000 people. Residents in a twelve-square-mile area were evacuated for three days while the water was lowered behind the failed hydraulic-fill earth dam. The dam held the terminal reservoir for the Los Angeles-Owens River Aqueduct System, which provided 80% of the water for the City of Los Angeles. Following the earthquake, a new replacement dam was constructed. A contentious issue in replacing the dam was the seismic design criteria for the new dam. Geotechnical consultants to the Los Angeles Department of Water and Power proposed maximum credible design earthquakes and ground motions. Acting as consultants to the Corps of Engineers, USGS scientists proposed design values that were significantly more stringent. The USGS design values, which were based on the analyses by USGS seismologists of recent recordings of ground motions close to a number of earthquake sources, exceeded those then being used by most seismic engineers for the design of important structures. Because federal disaster relief funds were to finance the construction, the USGS values were ultimately used to calculate the ability of the dam to withstand ground shaking and, even if damaged, still retain water. The \$33-million replacement dam--the Los Angeles Dam--was built in 1975-76 slightly upstream of the old dam, which remained as a backup dike facility.

The Los Angeles Dam was tested by the 1994 Northridge earthquake (magnitude 6.7). Ground motions recorded in the vicinity of the dam site during this earthquake are among the largest yet recorded for any shock and are comparable to the more stringent design

values specified by the USGS. The dam site lay above the buried fault surface for both the San Fernando and Northridge earthquakes. The new Los Angeles Dam performed well and suffered only minor settling and surficial cracking, while the old Lower San Fernando Dam, which was no longer holding a reservoir, again suffered major damage.

Kobe, Japan Earthquake

Question: Almost exactly a year after the devastating Northridge earthquake occurred, a devastating earthquake struck the city of Kobe, Japan. Damage was extensive and more than 5,000 lives were lost. Of particular interest was the number of relatively new buildings that were damaged by the earthquake. Three USGS scientists traveled to Kobe following the earthquake to make assessments of the damage. What were the findings of the scientists who were dispatched to Kobe, Japan following the massive earthquake there?

Answer: The January 17, 1995, Kobe earthquake was located 20 kilometers from the city of Kobe, at a depth of 10 kilometers, and with a fault rupture toward Kobe. The underlying soils in the area amplified the effects of the earthquake and were liquefied. Most of the loss of life occurred in residential structures that were built without any seismic resistance. Traditional Japanese houses are constructed without any shear bracing to provide seismic resistance. These buildings literally disintegrated during the shaking, crushing their occupants. The heavy damage to taller engineered structures was concentrated in buildings built to pre-1981 building codes. The pre-1981 codes allowed changes in stiffness with height in buildings, which degraded the structure's dynamic performance. It is worth noting that the explicit goal of building codes is to prevent building collapse, not to prevent damage or loss of function. In that sense, even older buildings performed well, with the exception of the collapse of a single story, which was common in many of them. During the visit, USGS scientists held discussions with Japanese colleagues regarding remedial methods. In particular, methods for stabilizing potentially liquefiable soils were emphasized.

Question: Were the newer buildings which were damaged built to withstand damage from earthquakes? If so, why was the damage so extensive?

Answer: The seismic provisions of the building codes in Japan were considerably improved in 1981 and come closer to seismic provisions in modern codes in the United States. Collapses and partial collapses largely occurred in structures built before 1981. Damage in post-1981 buildings was severe in less than 10% of them as contrasted with more than 50% in pre-1981 buildings. Even wood-frame homes that were built after 1981 performed well because of their seismic resistance.

Question: Is there any similarity between the conditions at Kobe and those found in any of the major U.S. cities?

Answer: Any urban area in the United States probably would respond similarly if it were subjected to a 40-km-long earthquake source zone that passed directly through the urban area. In California, residences would perform slightly better because they are predominantly wood frame and bolted to their foundations. However, in other areas, where homes are not bolted down or are built of unreinforced masonry (brick) or without lateral bracing, similar life losses might be encountered. In California, tall buildings built to older codes would probably suffer similar damage levels. In other parts of the country, where seismic resistance of these buildings is low, damage levels could be even worse.

Active faults capable of generating at least moderate earthquakes within major U.S. urban areas have been identified in the greater Los Angeles area, the San Francisco Bay region, San Diego, the Seattle area, and Salt Lake City. Soil conditions in the harbor area in Kobe, dominated by loose sandy fill, are similar to those in many harbors in the United States where sand has been dredged and dumped to reclaim land. In such areas, similar damage could be expected.

Question: What were the factors which led to the destructiveness of this particular earthquake?

Answer: There are several reasons for the destructiveness of the Kobe earthquake. The primary factor responsible for the destruction is that the Kobe earthquake occurred in a densely urbanized region. Secondly, much of the construction was built at lower levels of seismic resistance than are required today. Finally, loose sandy fill in the port was not compacted to withstand the level of shaking that occurred nor to resist the subsequent liquefaction that damaged the wharfs.

Question: Were there any warnings that such a devastating earthquake might occur?

Answer: Geologists had mapped the causal fault as well as other faults and knew that they were active. These are described in published reports. Four foreshocks (of magnitudes less than 3) occurred in the epicentral region 5 hours before the earthquake, but they were not notable in the context of the regional seismicity.

Washington State Earthquake Hazards

Question: The USGS is currently cooperating with State and university researchers to examine faults that may be active throughout the Puget Sound and in Lake Washington and Elliott Bay in Seattle and the history of recent activity of these faults. Studies show strong evidence for activity on at least some of these faults, such as the Seattle fault and the Whidbey Island fault zone. According to the USGS, there is strong indication that the potential exists for earthquakes in excess of magnitude 8, and earthquakes of magnitude 6 to 7 may occur in the next few decades. (By comparison, last year's Northridge, California earthquake was a magnitude of 6.7, and the recent Kobe, Japan earthquake was about the same magnitude.) How much of the funding for FY 1996 is for earthquake hazards in Washington State? How does this funding compare with the FY 1995 funding level?

Answer: The exact amount of funding for FY 1996 for earthquake hazards research in Washington State has not yet been determined. More than 90% of the Earthquake Program funding that the USGS receives is allocated through scientific peer-review panels. Peer panels review both the internal and external parts of the program; the internal total was \$34.9 million and the external total was \$14.0 million in FY 1995. Each panel focuses on either a region (such as the Pacific Northwest or Southern California) or a major scientific theme (such as Processes and Theory). Funding for studies in the Pacific Northwest (California north of Cape Mendocino, Oregon, Washington, and Alaska) totaled about \$5.3 million or about 10.8% of the program total in FY 1995. With level funding, the Pacific Northwest portion of the program will remain about the same in FY 1996. With decreased funding, the actual percentage of funding in the Pacific Northwest would increase, because other portions of the program would be reduced more than the studies in the Pacific Northwest.

Within the Pacific Northwest region, approximately 80% of the budget is spent in the Cascadia subregion (Washington, Oregon and northernmost California), the remainder is spent on Alaska studies. Because a major crustal imaging experiment is being conducted in FY 1995 and FY 1996 across Washington State, the percentage of funding for Washington studies has increased compared to previous years. Spending in Washington was approximately \$3.2 million in FY 1995 (the estimate reflects the fact that many projects are region-wide rather than State-specific). Besides the USGS, earthquake researchers from the Geological Survey of Canada, seven universities, five private firms and one nonprofit professional association have work in progress in FY 1995 in Washington State.

Question: What specific activities are being undertaken by the USGS to mitigate the earthquake hazards in Washington State?

Answer: The USGS assessment of earthquake hazards and associated risks in Washington is built on a two-pronged approach coupled with a strong regional focus. The first prong is to understand what the hazards really are. The second prong is to push current understanding of the hazards, even though incomplete, forward so that society can make the most informed decisions possible on how to reduce risks from earthquake hazards. The regional focus is one of the unique aspects of the USGS NEHRP organization.

Following the 1989 Loma Prieta earthquake, Congress provided funds for the USGS to increase the focus of the Earthquake Program in four geographic regions known to have very high earthquake hazards: (1) Southern California, (2) Northern California, (3) Pacific Northwest, and (4) Central U.S., centered on the New Madrid seismic zone. In each region, the USGS has tailored its program to meet the current regional needs, and assigned a Regional Coordinator to lead our program development in the area.

Our regional focus provides a natural scientific leadership to organize aftershock studies and address concerns of State and local agencies. For example, only fifteen years ago, major earthquake hazards in the Pacific Northwest were thought to be limited to the Puget Sound region. Scientists, engineers and planners were uncertain as to whether significant earthquake hazards existed elsewhere. So the initial emphasis in the USGS Earthquake Program was to understand the regional geology and possible earthquake hazards. As our research program developed, we rapidly began finding geologic evidence that the Pacific Northwest coast has had great earthquakes, of magnitude 8 or larger. The last event was 300 years ago, and it is estimated that one of these events occurs about every 400-600 years.

As we reached consensus on these great earthquakes, we began discussing the implications of the ground shaking with engineers, State officials, utilities, and highway engineers across the region. As a result, the structural engineers of Washington, working with the State Geological Survey and legislature, upgraded the Uniform Building Code seismic zones for all of southwestern Washington (1994). These changes bring the seismic design requirements used in Seattle for about 30 years to the rest of western Washington. For new construction, these new provisions will ensure lower losses in future major earthquakes.

Building codes, however, are only useful if engineers understand the changes in seismic design required, building officials enforce the code, and contractors follow the construction practices. In an effort to better inform these key groups in the effort to reduce earthquake losses, the Structural Engineers Association of Washington (SEAW) is being funded by our competitive grants program to develop a series of seminars and booklets explaining these new code changes. Four workshops will occur over the next 8 months; this is the first instance where such training has been offered following a building code change.

These workshops will include the latest results from the Kobe, Japan earthquake. A nine-member engineering team from Seattle spent over a week in Kobe. The team was put together by the local Seattle engineering community, and had a heavy emphasis on the effects of the Kobe earthquake on port facilities and infrastructure. Nine engineers, including both private and public sector engineers, made the trip. The SEAW sent two engineers who were partly funded by the USGS research grant.

In a survey just being published, the USGS Seattle Field Office polled a wide number of private firms and public agencies in the greater Seattle and Portland areas. Since 1989, respondents identified that they had spent more than \$130 million to make seismic design improvements in Oregon and Washington. Most noted that the USGS-led discussion of the earthquake hazards in the region and the notion that the hazards have been significantly underestimated were two of the prime reasons they chose to upgrade their facilities.

Despite the increased understanding and the related investments to build more seismic-resistant structures (pushing our current understanding into societal practice), there are major uncertainties facing the region. One example, related to the subduction zone events, has to do not only with how strong the ground shaking will be but also with how long the shaking will last. This second issue, called duration, is not taken into account in building design provisions. Engineers are concerned that repeated cycles of loading and unloading, as occurs during long-duration subduction events, will cause large losses. (Because the source areas for subduction earthquakes are so huge, duration is thought to be a more severe problem in areas like Washington and Alaska than most of California). Thus, in the Pacific Northwest, we have identified a need for studies of the nature of rupture of great earthquakes, how the seismic energy is focused in deep sedimentary basins like those in Puget Sound, and what the ground motions will be at the base of structures.

A second example of uncertainty is the hazard from crustal faults near Seattle. Over the past few years, USGS researchers have found unequivocal evidence of a large (Magnitude 7+) earthquake on the Seattle fault (this fault runs from Bainbridge Island east to Alki Point, through the Kingdome, and parallels I-90 across Mercer Island) that occurred about 1000 years ago. Recently, the South Whidbey Island fault, approximately paralleling the southwestern shore of Whidbey Island, has been identified as another major fault in the greater Puget basin (to date definitive paleoseismic evidence of an earthquake within the last 100,000 years is lacking). Over the next five years the USGS studies in the Pacific Northwest will emphasize the nature of the crustal faults; our goal is to produce the region's first probability report by the year 2000. That report could form the basis for an increase in the Puget Sound earthquake standards.

National Seismic Network

Question: According to the budget justifications (page 105), the number of the U.S. National Seismic Network stations that will be operational will increase from 42 in FY 1995 to 60 in FY 1996. Where will the additional USNSN seismic stations be operated? How much of the additional funding requested will be required for these stations?

Answer: During FY 1996, USNSN seismic stations will be installed in northwestern Oregon, southeastern Utah, Indiana (Wyandotte Cave), Tennessee (Dunbar Cave), western Iowa or southeastern South Dakota, South Carolina (Charleston area), central South Carolina, Illinois (between Chicago and Urbana), Delaware (Greenwood), and Ohio (Columbus). In addition, discussions are being held with the Department of Energy, Saint Louis University, Weston Observatory, Lamont-Doherty Earth Observatory, and Lawrence Livermore/Boise State University to negotiate cooperative station agreements for as many as 25 stations. Under these agreements, the cooperating organization would provide most or all of the station hardware and the USGS would provide the USNSN communications channels, the installation expertise, and the communications equipment at some of the stations.

Funding for the installation of the FY 1996 - scheduled USNSN stations is contained in the base request for continued funding at the FY 1995 level. The increase requested for the Earthquake Hazards Program for FY 1996 will be used to develop the seismic recording and analysis systems necessary to produce maps of ground shaking patterns in real time. Because these maps require many seismometers, the ability to transmit large volumes of data in real time, and very fast computers, they will require the installation of additional equipment not called for in the USNSN installations. The first phase of the development of the urban hazard seismic system is underway in the greater Los Angeles area (using funds provided by Congress as part of the Northridge supplement). There, 200 new seismic stations are being installed, high-precision deformation stations sited, digital communications links are being developed, and display software, capable of producing estimated patterns of ground shaking and ultimately predicted losses is being written. The FY 1996 requested increase will allow the USGS to use the experience gained in Los Angeles to begin development of these systems in San Francisco, Seattle and Memphis.

Question: To date, has there been any success in using earthquake early warning systems?

Answer: Yes, there has been success in using earthquake early warning systems. Modern technological advances in earthquake monitoring and analysis and in communications have greatly enhanced our ability to record, transmit, analyze and broadcast earthquake information nationwide, entirely automatically. A recent example of the practical value of this ability occurred on Friday, February 3, 1995, when a magnitude 5.4 earthquake occurred near Rock Springs, Wyoming. The seismic waves from this event were picked up by the seismic stations of the USNSN and the University of Utah. The signals were transmitted to the USGS National Earthquake Information Center in Golden, Colorado, where an alert message was then sent to the Union Pacific Railroad dispatch center in Omaha. The Union Pacific stopped 24 trains in the region until the tracks could be inspected for damage. There are two notable achievements here. The first is the technical achievement of recording, transmitting, analyzing, and broadcasting the information entirely automatically and nationwide. The second is the cooperation between the government (USGS), industry (Union Pacific), and academic sectors (University of Utah). Working together, we are creating a modern and reliable seismic alert system that works efficiently and effectively.

Washington State Volcanic Hazards

Question: According to the budget justifications (page 113), new geologic mapping of Mt. Rainier, Washington, has provided a better understanding of the types of hazards that the volcano represents. What are the volcanic hazards represented by Mt. Rainier in Washington State? How likely is an eruption of Mt. Rainier?

Answer: Mount Rainier, the highest (14,410 feet) volcano in the Cascade Range, is located just 20 miles from the Seattle-Tacoma metropolitan area, which has a population of more than 2.5 million, and the volcano's drainage system via the Columbia River potentially affects another 500,000 residents of southwestern Washington and northwestern Oregon. Because of its frequent eruptive activity during the past 10,000 years, the fact that it is a large snow- and ice-covered, steep-sided volcano, and because it has been weakened by chemical alteration, Mount Rainier represents the most significant volcanic hazard in the Pacific Northwest. During the past 10,000 years, eruptions at Mount Rainier have produced 11 layers of volcanic ash and one pyroclastic flow, and more than 60 debris avalanches and debris flows have swept down valleys leading away from the volcano.

The most likely future eruptive event would be an eruption of a small volume of ash. The significant effects of such an eruption would extend to about 50 km from the volcano. The annual probability of such an eruption in any one year is about 0.001 (or about 1 event in 1,000 years). Most eruptions at Mount Rainier produce only relatively small amounts of volcanic ash and pumice, but even a small ash eruption would threaten commercial air traffic and cause serious disruption to interstate travel and commerce in the Pacific Northwest. Although more limited in extent than the ash fall hazard, the hazards posed by pyroclastic flows, lava flows, volcanic explosions, and glacier outburst floods are more severe within Mount Rainier National Park.

The most likely future hazardous events at Mount Rainier are debris avalanches, debris flows, and floods that will inundate valley floors leading away from the volcano. Debris flows can travel at speeds of more than 100 miles per hour, move distances of tens of miles, and in some cases occur with little or no warning. Such events have affected areas more than 20 km from the volcano with a frequency of about 1 per 1,000 years (annual probability = 0.001). Larger, more hazardous events that would extend more than 50 km from the volcano have an annual probability of about 0.0001. Large-volume events such as these could reach into the Puget Lowland and could inundate tens to hundreds of square kilometers and threaten more than 100,000 people.

Future eruptions of Mount Rainier are likely to be preceded by warning signs that can be detected by USGS monitoring networks. Hazardous events like debris avalanches and debris flows, which are not related to eruptive activity, could occur at any time and may not be preceded by detectable warnings. Hazard-zonation maps that depict areas at risk from Mount Rainier have been completed by the USGS and distributed to public officials. They are being updated as new information becomes available. A new hazard zonation map is being prepared and will be released in 1995. Mount Rainier has erupted at least 11 times during the past 10,000 years, most recently about 150 years ago. Similar eruptions in the future are virtually certain. Future eruptions are likely to produce ashfall, pyroclastic flows, lava flows, and debris flows. At least 12 times during the past 6,000 years, enormous masses of rock and glacier ice slid from the volcano and transformed into debris flows or mudflows that traveled great distances down the valleys emanating from the volcano. For example, the Osceola Mudflow, which occurred about 5,600 years ago, began as a landslide on the east flank of the volcano and flowed 40 miles down the White River valley, burying the sites of the modern-day towns of Kent, Auburn, and Enumclaw. About 500 years ago, the Electron Mudflow flowed down the Puyallup River valley and buried the site where the town of Orting is located today. Smaller debris flows occur much more frequently. A small debris flow from Little Tahoma Peak in 1963 traveled to within 0.6 mile of the White River Campground, and small debris flows triggered by surges of water from a glacier occur annually in Tahoma Creek.

Question: How serious are the other volcanic hazards in Washington State?

Answer: Five large, ice-covered volcanoes lie within the borders of Washington State. Four of these, Mount Baker, Mount Rainier, Mount St. Helens, and Glacier Peak have erupted frequently during the past 10,000 years and each has erupted within the past 200 years. The long record of explosive eruptions of volcanoes in Washington State, combined with the graphic example of the consequences of the 1980 eruptions of Mount St. Helens, document the serious nature of volcanic hazards.

Future eruptive events at volcanoes in Washington State will most seriously affect areas within about 50 km of the main eruptive centers. Valleys leading away from the main volcanic centers will be affected to even greater distances by large landslides such as mud and debris flows. Population centers in the Puget Lowland, including parts of the Seattle-Tacoma metropolitan area, occupy lowland areas that will be seriously affected by future landslides from Mount Rainier. Hazards from volcanic ash threaten large areas mostly near and to the east of the volcanoes. Volcanic ash also constitutes a serious threat to commercial aircraft that fly into and out of Washington State.

Existing monitoring networks operated by the USGS in Washington State should allow scientists to anticipate eruptive activity and provide warnings to State officials. Preliminary hazard-zonation maps completed for each of the hazardous volcanoes in Washington depict areas that are at risk from future eruptions, and the USGS is in the process of revising these assessments in response to the requirements of the Washington Growth Management Act of 1990.

Question: What is the status of current activity at Mount St. Helens?

Answer: Mount St. Helens is currently quiescent, but the potential still exists for hazardous activity that could threaten visitors to the Mount St. Helens National Volcanic Monument or residents in valleys emanating from the volcano. Fresh magma last reached the surface during a non-explosive dome-building eruption in October 1986. Since then there have been several small explosive events at the lava dome that produced ashfall and debris flows mostly within the crater, but no fresh magma. The most recent explosion occurred in February 1991. The USGS, in cooperation with the University of Washington and the U.S. Forest Service, continues to monitor the volcano for signs of renewed unrest. Currently, the level of earthquake activity is at its lowest level since Mount St. Helens reawakened in March 1980. Development of the Mount St. Helens National Volcanic

Monument is proceeding on several fronts, and the U.S. Forest Service (USFS) anticipates the current level of more than three million visitors annually to expand further when a third USFS visitor center opens in 1996. Continued monitoring and hazards assessment by the USGS to help ensure the public safety are an integral part of the U.S. Forest Service's management plan for the Monument.

Among the possibilities for renewed activity at Mount St. Helens are resumption of dome growth, extrusion of lava flows, or explosive eruptions and pyroclastic flows that could be as large, or even larger than, those that occurred in 1980. Because of the length of time since the last dome-building eruption, cooling and crystallization of magma has probably formed a plug in the conduit system beneath the volcano. The pressure necessary to overcome this blockage may exceed that of any eruption since May 18, 1980, so any resumption of eruptive activity is likely to be explosive. Another potential hazard, even in the absence of renewed eruptive activity, is an outbreak of Castle Lake that could cause a damaging flood in the Toutle River valley. The lake was impounded by the large debris avalanche from Mount St. Helens on May 18, 1980. A recently released USGS study concludes that the margin of safety for stability of the blockage is lower than previously calculated. These various scenarios for hazardous activity notwithstanding, a conservative approach to hazards assessment and the high visitation rate at the Monument oblige the USGS to assume that a substantial quantity of potentially explosive magma either is available now or could become available in the near future. For this reason, the USGS plans to continue monitoring the volcano at approximately the current level for the foreseeable future. In addition, a detailed geologic map and a revised hazards assessment are being prepared. Informational updates are issued periodically and whenever activity at the volcano changes.

Question: In participation with the National Research Council committee, USGS is cooperating to develop a science plan for Mt. Rainier as a demonstration volcano for the International Decade for Natural Hazard Reduction. What was the rationale for the designation of Mt. Rainier as a demonstration volcano? What other volcanoes have received similar designation?

Answer: Mount Rainier was selected as one of two (with Mauna Loa, Hawaii) demonstration volcanoes ("decade volcanoes") in the United States because it is (1) representative of one or more volcanic hazards, (2) geologically active, (3) located near a populated area, and (4) not thoroughly studied. It includes examples of many different volcanic hazards including ashfall, pyroclastic flow, lava flow, debris flow, edifice instability, interaction of hot rock with snow and ice, and volcanic gases. The last eruption at Mount Rainier was about 150 years ago, and another eruption is likely within the next few hundred years. The volcano looms more than 2.5 million residents of the Seattle-Tacoma metropolitan area, including more than 100,000 people who live on debris flow deposits from Mount Rainier that are less than 10,000 years old. Most of the basic geologic work at Mount Rainier was done more than 25 years ago, before the 1980 eruption of Mount St. Helens in Washington State focused increased attention on the hazard posed by the collapse of steep volcanoes and resulting debris flows. Although eruptions at Mount St. Helens are more frequent and typically more explosive than eruptions at Mount Rainier, the threat to populated areas is much greater at Mount Rainier.

In addition to Mt. Rainier, the following volcanoes have been designated for special study during the International Decade for Natural Disaster Reduction: Colima, Mexico; Etna, Italy; Galeras, Colombia; Mauna Loa, USA; Merapi, Indonesia; Nyiragongo, Zaire; Sakurajima, Japan; Santa Maria, Guatemala; Santorini, Greece; Taal, Philippines; Teide, Spain; Uluwan, Papua New Guinea; Unzen, Japan, and Vesuvius, Italy. At Mauna Loa, the U.S. Geological Survey has increased the level of volcanic monitoring and is preparing a series of detailed geologic maps of the entire volcano. A comprehensive collection of recent scientific results for Mauna Loa, including numerous contributions by USGS scientists, is being compiled and will be published by the American Geophysical Union as part of the Decade Volcano program. In addition to Mauna Loa and Mount Rainier, other decade volcanoes that have received recent attention from USGS scientists are Galeras, Merapi, Nyiragongo, Teide, and

Unzen, Galeras, Merapi, and Unzen each have produced fatal eruptions in the past few years. Eruptions from Nyiragongo or nearby Nyamuragira volcanos could threaten more than 1.2 million Rwandan refugees in Zaire. Experience gained at these and other dangerous volcanoes abroad allows USGS scientists to develop new volcano-monitoring tools, improve hazards mitigation techniques, and hone skills that will be applied at future volcanic crises in the United States.

Question: Has the science plan been published? What are the major elements of the science plan?

Answer: Yes, the Mount Rainier science plan, "Mount Rainier, Active Cascade Volcano," was published by the National Research Council of the National Academy of Sciences in 1994. The plan outlines strategies for mitigating risk from future hazardous events at Mount Rainier. It also discusses volcanic hazards within the context of the State of Washington's Growth Management Act of 1990, which requires many counties and municipalities to develop growth management plans that specifically address natural hazards, including volcanic hazards where appropriate. The USGS Cascades Volcano Observatory will update hazards assessments for the five Cascade volcanoes in Washington State during 1995, and is working closely with public officials, private industry, educators, and citizens to provide technical information needed to address the requirements of the Growth Management Act.

The science plan addresses the need for additional research, volcano monitoring, and hazards mitigation at Mount Rainier. Recommended research topics include geologic mapping, petrologic and geochemical studies, geophysical surveys, mudflow studies, and edifice stability assessment. Volcano monitoring should include measurements of local earthquakes, ground deformation, hydrothermal activity, changes in surface appearance, and stream flow. More effective hazards mitigation at Mount Rainier also requires increased communication among scientists, public officials, and those who are at risk from the volcano. The U.S. Geological Survey has responded by expanding the network of seismometers near Mount Rainier in cooperation with the University of Washington, establishing a geodetic network at the volcano using the satellite-based Global Positioning System, initiating a geologic mapping project and a related hydrothermal alteration study, updating the USGS hazards assessment for Mount Rainier, and funding the production of a broadcast-quality video describing volcano hazards at Mount Rainier, to be completed in 1996.

Question: What is the nature of USGS involvement in the UN-sponsored International Decade for Natural Disaster Reduction? How much was provided in FY 1995 and is requested in FY 1996 for these activities?

Answer: The U.S. Geological Survey has assumed a leadership role in the Decade Volcano programs at Mount Rainier and Mauna Loa, and USGS scientists are working at several other Decade Volcanoes abroad. At Mount Rainier, the USGS effort includes (1) a new geologic map and revised eruptive history of the volcano; (2) a study of hydrothermal alteration inside the volcano, which decreases the stability of the edifice and thus is a primary contributing factor to collapse and the generation of large debris flows; (3) expanded monitoring of earthquakes and ground movements; (4) production of a video about volcano hazards at Mount Rainier intended for viewing by public officials, emergency-response agencies, private industry, educators, and citizens who could be affected by future activity at the volcano; and (5) a variety of other activities intended to increase public awareness and understanding of Mount Rainier, including teacher workshops, informational brochures, presentations at county fairs and other public gatherings, a questionnaire for distribution by the local school system, and a regional conference scheduled for near the end of the decade.

At Mauna Loa, USGS activities as part of the Decade Volcano program include: (1) preparation of detailed geologic maps of the volcano as a basis for specific, quantitative

hazards assessments for rapidly developing areas on the Island of Hawaii; (2) expanded monitoring of earthquakes and ground movements to improve the ability of the USGS Hawaiian Volcano Observatory to forecast future eruptive activity; and (3) compilation of scientific results for Mauna Loa for a monograph to be published by the American Geophysical Union.

USGS scientists have recently worked at several other Decade Volcanoes at the invitation of foreign governments. These include Galeras, Colombia; Merapi, Indonesia; Nyiragongo, Zaire; Teide, Canary Islands (Spain), and Unzen, Japan.

No funds were appropriated for these activities in FY 1995, and the USGS has not requested additional funding for these activities in FY 1996. Instead, the increased focus on Mount Rainier is being supported by reallocating resources within the USGS Volcano Hazards and Geothermal Studies Program. About \$300,000 of Program funds are being directed toward Mount Rainier studies in FY 1995.

Environmental Studies

Question: During consideration of the FY 1995 Interior bill, there was some concern about the relationship of the environmental studies conducted by the Minerals Management Service (MMS) and their relationship to the studies conducted by the USGS. Language encouraging greater coordination between MMS and USGS was included in the Statement of the Managers accompanying the Conference Report for the FY 1995 Interior bill. How do the environmental studies conducted by the USGS compare with those conducted by MMS?

Answer: Environmental efforts in the USGS Marine and Coastal Geologic Surveys program focus on providing information to help understand and address a variety of coastal and nearshore concerns including coastal erosion, transport and fate of contaminants, evaluation of offshore disposal sites, and seafloor habitats of biologic resources. USGS studies provide geologic and oceanographic information about the seabed characterization and geologic processes on a regional scale needed to address these issues. The Environmental Studies Program at MMS focuses specifically on providing information that relates to the environmental concerns of development of offshore energy and mineral resources.

Question: To what extent has the USGS been working with MMS on the environmental studies conducted by MMS?

Answer: Within the area of the MMS Environmental Studies Program, the Minerals Management Service (MMS) and USGS have taken several steps to minimize duplication of effort and to see that USGS expertise is better utilized by the Environmental Studies Program when cost effective. Environmental Studies Program activities mostly fall within three disciplines: physical, socioeconomic, and biological sciences. USGS expertise is most applicable to the first area, physical sciences, including geologic and coastal processes and physical oceanography. MMS and USGS scientists and program managers have reviewed planned new studies as identified in the MMS Environmental Studies Program Strategic Plan and have identified several studies which might be conducted by USGS. One study has been initiated in the Gulf of Mexico and several others are under discussion to develop specific plans that involve possible work in the northeast Gulf of Mexico and Alaska related to potential oil and gas development and along the Atlantic and Gulf of Mexico coasts related to potential sand and gravel development.

Question: Will any of the information from the studies for which funding is requested in FY 1996 for USGS be of benefit to MMS?

Answer: Some of the USGS coastal erosion studies for which funding is requested in FY 1996 could provide some information that is of benefit to MMS in the evaluation of sand resources. In addition, the FY 1996 USGS budget request includes about \$300,000 for new

sand and gravel investigations that could in part be used to conduct cooperative, jointly funded studies with MMS.

Question: What is the role of USGS versus State agencies and other federal agencies for regional and fundamental studies for marine and coastal geologic surveys?

Answer: The USGS is the principal Federal agency for the integrated study of fundamental geologic processes affecting the Nation's marine and coastal realms. USGS studies focus on providing an understanding of the fundamental geologic processes occurring in coastal and offshore areas that affect hazards, resources, and environmental quality. Fundamental studies account for about 5 percent of the USGS marine and coastal geologic surveys program as planned for FY 1996. The studies are conducted with other USGS programs, other Federal agencies, and university scientists when appropriate. Several USGS regional studies are conducted cooperatively with State agencies. USGS's role for these studies is to provide a regional approach, integrating research and information over multiple States when needed, and to provide unique expertise in understanding regional geologic processes and frameworks. State agencies working from the regional context develop State and locally specific information and management strategies.

Marine and Coastal Geologic Surveys

Question: In FY 1996, a programmatic increase of \$3.2 million has been requested for marine and coastal geologic survey for characterization of National Marine Sanctuaries and for regional research and assessments. How much of the increase is for geologic studies in National Marine Sanctuaries managed by the National Oceanic and Atmospheric Administration (NOAA) and how much is for regional research and assessment?

Answer: Of the \$3.2 million requested increase, \$2.0 million is for expanding studies in and around National Marine Sanctuaries and \$1.2 million is for intensifying regional research and assessments.

Question: What level of funding will support activities in each of the areas targeted for studies?

Answer: Of the \$2 million for National Marine Sanctuaries work, approximately \$1,500,000 will be used for relocating personnel from the Pacific Marine Geology Branch to co-locate with the University of California at Santa Cruz in order to expand cooperative marine geologic investigations in central California in and around the Monterey Bay Sanctuary. Approximately \$500,000 will be used to expand seabed mapping and habitat characterization studies in Stellwagen Bank and Monterey Bay Sanctuaries. Of the \$1.2 million for regional research and assessment, approximately \$900,000 will be used to intensify wetland and sedimentation studies in South Florida and San Francisco Bay and up to \$300,000 will be used for scientific support of resource management in Klamath/Trinity region, Chesapeake Bay, or Great Lakes.

Question: How much of the funding will support co-location of a unit of USGS with the University of California at Santa Cruz and a unit of the NOAA's National Marine Fisheries Service?

Answer: Approximately \$1.5M of the proposed increase in FY 1996 is related to the plan to relocate personnel of the Branch of Pacific Marine Geology to co-locate with the University of California at Santa Cruz (UCSC).

Question: Where is this unit currently located and what are the costs associated with relocating the unit?

Answer: The unit is currently located in a leased facility in Palo Alto, California. USGS has been notified that the leased facility must be vacated necessitating a relocation of those

offices. Current projected costs for relocation are approximately \$5-6M. Efforts are currently underway to identify ways to reduce the costs of the relocation and to distribute some of the costs over two to three years. The USGS has reduced the number of employees in the Menlo Park through two buyouts in the previous year. An examination of space usage at the main Menlo Park center is currently underway to see if a part of the Pacific Marine Geology Branch can be accommodated there, resulting in a smaller number of employees to relocate and the need for a smaller building in Santa Cruz. This could result in lower one-time and recurring costs, while still establishing a strong collaborative program in the Monterey Bay region by placing a significant part of the branch there.

Question: What long-term savings are expected to be realized as a result of the relocation?

Answer: Co-location of the Branch of Pacific Marine Geology with the University of California at Santa Cruz will result in savings through decreased operating costs and shared resources with the University. The USGS intends to take full advantage of co-location with an outstanding scientific and technical community by using advanced laboratories at the University, sample archival space at Ft. Ord, and part time employment of experts on a "as-needed" basis. In fiscal year 1997, these savings may be minimal because the relocation will occur late in that year. Specifically, the annual savings are estimated to be \$50,000 through shared analytical laboratory equipment and \$250,000 through decreases in required building space (library, laboratories, and offices). Additional savings could result from decreases in required staffing. Actual cost savings are only one part of the motivation for the co-location; of greater significance is the increased effectiveness of the scientific investigations that will be achieved through cooperation and integration with the other federal agencies, universities, and research institutions in the Monterey Bay region.

Question: What are the current operating costs of the unit and what are the costs expected to be in FY 1996?

Answer: FY 1995 operating costs of Pacific Marine Geology Branch are approximately \$16 million and FY 1996 costs are expected to be about the same plus the costs associated with relocation.

South Florida

Question: As part of the regional research and assessment activities, USGS is working with the Army Corps of Engineers, the National Park Service, and the U.S. Fish and Wildlife Service to support wetlands restoration activities in the Florida Everglades and Florida Bay. How much funding was provided in FY 1995 for USGS activities in support of the restoration of the Florida Everglades and Florida Bay and how much funding is requested in FY 1996 for these same activities?

Answer: In FY 1995, slightly less than \$3.8 million was provided for Florida Everglades and Florida Bay. In FY 1996, the \$3.8 million has been augmented by an additional \$4.2 million to provide a total of \$8.0 million.

Question: What specific activities will be accomplished with the funding provided in FY 1995 and FY 1996?

Answer: The USGS activities in South Florida underway in FY 1995 and planned for FY 1996 are described below. Through partnering with other Federal and State agencies, the USGS added to the overall program in South Florida to double the coverage of digital orthophotoquadrangles produced, and increase the number of projects that we could initiate. None of the projects requiring field work could proceed without support we have received from SFWMD, the Corps, or the NPS in the form of field assistance, transportation, or field housing. The Corps provided funds in FY 1995 to support or partially support certain projects related to discharge to Florida Bay, model review, ecosystem history, and

- ▶ USGS measures marine groundwater seepage and nutrient seepage into coral reefs, which are important components of the water and nutrient budgets for the bay. Communities in the Florida Keys need information on nutrient seepage from groundwater to determine whether it is necessary to modify their sewage-disposal practices.
- ▶ USGS information on ecosystem history will show historical ranges in salinity and temperature so that resource managers can set goals for restoration.
- ▶ USGS provides data to understand the extent and causes of sediment resuspension in Florida Bay for the FDEP, which needs information on turbidity and sedimentation for refining its evaluation and monitoring programs.

THE SOUTH FLORIDA PROGRAM IN FY 1996

The USGS program will be drawn from the Science Subgroup's Summary of Scientific Information Needs. The USGS will work with clients in South Florida using a process similar to the process used in FY 1995, so that all projects meet the specific requirements of clients for their restoration activities. Projects from FY 1995 will be continued, and in some cases expanded.

Water Quality and Habitat Protection

- ▶ USGS will expand ecosystem history work in Florida Bay and initiate work in Biscayne Bay to determine predisturbance conditions in areas not adequately covered.
- ▶ USGS will continue work on sedimentation and turbidity.
- ▶ Information related to the development of the circulation model for Florida Bay will be expanded.

Information Management

- ▶ USGS will expand the production of digital orthophotoquadrangles.
- ▶ USGS will identify high priority quadrangles for production of high resolution elevation data through contacts with our clients in South Florida.
- ▶ USGS will refine parameters of existing models by using information on vegetation type from enhanced digital orthophotoquadrangle coverage and other remotely sensed data to extend the results of studies that provide data for the hydrologic models (ecosystem history, evapotranspiration, and vegetative resistance to flow) to the rest of South Florida.
- ▶ In coordination with our South Florida clients, USGS will establish data standards for a database of databases, and for USGS data collected in South Florida.

Monitoring and Research

- ▶ USGS will enhance the information available for hydrologic modeling by expanding collection of hydrologic and water quality data into the southwest coast and other areas not currently being adequately monitored.
- ▶ Construction of modules for evapotranspiration, vegetative resistance to flow, chemical transport, and flow beneath the levee to be used in conjunction with the hydrologic models will continue.

- ▶ USGS will continue work related to cycling and depositional history of mercury and other potentially toxic compounds to improve predictions of the effects of restoration activities on chemical availability and contamination.
- ▶ Gathering information on salinity of aquifers will continue, and data on hydrogeology of aquifer structures will be provided in coordination with the State Geologist.

Question: What are the goals of the activities being supported in Florida and how long does USGS expect it will take to accomplish these goals?

Answer: The goals of the work in South Florida are to provide scientific support and technology needed for management of resources in South Florida, including: (1) Improving the predictive capabilities of the hydrologic models of the Everglades and circulation model of Florida Bay, by providing data and refinements of model components so that management options can be more accurately evaluated; (2) Providing yardsticks for measuring success of restoration efforts by showing the historical changes in environmental conditions and variability of those conditions; (3) Providing information to evaluate particular management problems, such as mercury, algal infestations in seagrasses, wild fires, and Florida Bay turbidity.

Most of the work will be complete in three to five years. Plans call for phasing out the South Florida funding at five years. The activity level of USGS after that time will probably be similar to the level before FY 1995.

Question: What are the plant evaporation studies USGS is conducting?

Answer: Evapotranspiration (ET) is a critical component in the hydrologic models of South Florida. USGS will develop a process-oriented model to characterize evapotranspiration rates from a variety of non-agricultural environmental settings. The model will be used to estimate the areal extent of different rates of ET for use in hydrologic models used by the Corps of Engineers, the National Park Service, and the South Florida Water Management District. The USGS work was undertaken in response to the needs of those agencies and was reviewed by the Agricultural Research Service and the Natural Resources Conservation Service as part of the coordination effort with the South Florida Restoration Working Group.

The USGS is studying evapotranspiration in three vegetation types. It is using the Bowen Ratio method, a direct measure of the evapotranspiration from a particular vegetative type. Other agencies are collecting similar data by different methods in different areas. A diversity of sites is needed in order to represent different vegetative types and weather variations in South Florida. The SFWMD, one of our primary clients on the project, has a network of sites using pan evaporation, an indirect measure requiring the use of estimated coefficients for vegetative type, and one station that utilizes lysimeters. At one or two sites, different methods will be collocated to determine if, by correlating the information from the methods, the data from the broader networks can be made more usable to modelers, and indirect measures can be confirmed.

Question: Why is USGS the lead agency for these activities and not the Department of Agriculture?

Answer: Evapotranspiration is an important part of the hydrologic cycle, which is the foundation for much of the work in the Water Resources Division. Our nationally recognized expertise in this area led the Agricultural Research Service to bring in USGS to conduct the evapotranspiration research at their Walnut Gulch ARS site. The USGS is involved in measuring evapotranspiration in other environmental settings, including native vegetation in West-Central Florida, Kansas prairie, Canadian forests, New Mexican desert, Californian high desert and Puerto Rican rain forest.

USGS has developed close working relationships with our clients in the ET project, and has a diverse program of basic-records collection and hydrologic studies with them. We understand the kind of information they need, with respect to both hydrology and water management. Therefore we are able to conduct this study more efficiently than an agency that hasn't worked in the field of hydrology in South Florida as extensively as we have.

San Francisco Bay

Question: In FY 1995, the USGS began activities as part of the regional research and assessment activities in the San Francisco Bay. These activities are also part of the "critical ecosystem" activities which were requested separately in FY 1995. What level of funding is being provided in FY 1996 through the USGS for regional research and assessment activities in San Francisco Bay? How much funding was provided for these same activities in FY 1995?

Answer: The USGS received approximately \$1.25 million in funding for San Francisco Bay in FY 1995, and is requesting \$1.25 million for that location in FY 1996.

Question: What specific activities are being funded in FY 1995 and what activities will be funded in FY 1996 for San Francisco Bay activities?

Answer: The program for FY 1995 will continue into FY 1996. Activities can be broken into four major topics; wetlands change, hydrologic measurements and modeling, contaminants and data accessibility.

Wetlands Change

Problem: Modifications to the San Francisco Bay estuary have reduced the extent of the historic tidal marshes by more than 95% with attendant losses in fish and wildlife habitat

- ▶ The USGS will examine historical information to detect changes in wetlands, bay bathymetry, and the shoreline for the Fish and Wildlife Service and other managers of wetlands.
- ▶ USGS will derive relationships between sediment flux into and out of wetland areas using meteorological data, flow information and sediment movement so that the Fish and Wildlife Service, and other managers of wetlands can better predict what restoration actions will be successful.
- ▶ The USGS will conduct geochemical studies on the effects of restoration activities at the Sonoma Baylands Demonstration site to provide information for the Corps and other agencies active in the Demonstration site.

Hydrologic Measurements and Modeling

The flow of freshwater into the estuary has been greatly reduced by water diversions largely to support irrigated agriculture. Harbor and channel dredging has changed both the dredged and disposal sites and altered water flow patterns and salinity.

- ▶ USGS will measure flows in Dutch Slough, a key site needed for a new numerical model to predict water flow throughout the San Francisco Bay Delta so that water resource managers can more accurately predict the flows through the delta.
- ▶ Studies of salt transport and suspended sediment dynamics in Suisun Bay will be used in the State's implementation of salinity standards for the Suisun Bay area and for management to increase fisheries productivity.

- ▶ Information linking variability in inflow, salinity, and climatic changes will be used by the water management agencies of the Bay area for water allocation planning.
- ▶ Sites instrumented to measure relations between currents, weather, suspended sediment and other climatic variables will be used by the Corps to better predict the fate of dredged materials and associated contaminants
- ▶ USGS will examine baywide data on salinity, temperature, turbidity and suspended sediment concentrations to develop an optimal network design for the Regional Monitoring Program, which is mandated by local regulatory agencies for San Francisco Bay.

Contaminants

Contaminants enter the estuary in municipal and industrial sewage, and urban and agricultural runoff.

- ▶ The USGS will identify and quantify toxic contaminants in Delta water and sediment so that managers of irrigation water can improve the timing of releases and thus reduce toxicity.
- ▶ Studies of molluscan health in relation to sediment contaminant concentration will support the EPA in establishing better *in situ* sediment standards for trace contaminants.

Data Accessibility

Resource management agencies cannot be expected to fully use scientific information until access to it is improved.

- ▶ The USGS will use World Wide Web protocols to develop and join various USGS data bases to provide resource management agencies and the public with ready access to these data.

Question What are the goals of the activities being supported in the San Francisco Bay and how long does USGS expect it will take to accomplish these goals?

Answer: Plans call for phasing out the San Francisco Bay work under this program after five years. (Other USGS programs in the San Francisco Bay area are not on this timetable.) The goals of the work in San Francisco Bay are to provide scientific support and technology needed for management of water and wetland resources, including:

- ▶ Improving the understanding of the processes that maintain healthy wetlands.
- ▶ Providing critically needed information and models for monitoring and managing water, sediments, salinity and contaminants in the San Francisco Bay and Delta.
- ▶ Improving the accessibility of USGS information to the San Francisco Bay area resource management community and the public.

Federal Geographic Data Committee

Question The Secretary of Interior chairs the Federal Geographic Data Committee, which is assigned the development of the National Spatial Data Infrastructure in partnership

with State, local, and tribal governments, the private sector, academia, and others. What federal agencies are participating in the Federal Geographic Data Committee?

Answer: Federal agencies that produce, manage, use, or have an interest in geospatial data are members of the Federal Geographic Data Committee. These include the Departments of Agriculture, Commerce, Defense, Energy, Housing and Urban Development, Interior, State, and Transportation, as well as the Environmental Protection Agency, the Federal Emergency Management Agency, the Library of Congress, the National Aeronautics and Space Administration, the National Archives and Records Administration, and the Tennessee Valley Authority.

Question: What is the total annual funding for the Committee and what is the source of funding?

Answer: The agencies mentioned above contribute time and resources to fulfill their coordination responsibilities as assigned by the Office of Management and Budget in the Circular (A-16 revised) that established the committee. There are more than 300 Federal members coordinating geospatial data themes and activities within the Federal sector and in cooperation with State and local governments, academia, and the private sector. The USGS cannot estimate the cumulative cost across government that accrues from the individual agency commitments to committee activities. The secretariat, however, is housed in the USGS and is funded at about \$1 million annually to support the committee structure, publications, much of the outreach to the broader community, and training materials, and to manage the cooperative and technology development agreements and projects on behalf of the committee.

Mineral Resource Surveys

Question: According to the table on page 160 of the budget justifications, the USGS will be conducting numerous mineral assessments in FY 1996 in national forests, BLM resource areas, Alaska quadrangles, and several special studies areas. What is the funding level for each of the mineral assessments which are planned for FY 1996?

Answer: The mineral assessments planned for FY 1996 will be funded at a range of \$300,000 to \$600,000 each.

Question: Which of these assessments are new starts, ongoing efforts, or will be completed with the funding provided in FY 1996?

Answer: The status of assessment studies for FY 1996 is as follows:

New starts:

National Forests - Chugach, AK; Wenatchee, WA; Salmon, ID; Nez Perce, ID
Special Studies - Humboldt, NV; Colorado Desert, CA; Klamath-Trinity Area, CA

Ongoing efforts:

National Forests - Prescott, AZ
BLM areas - Dillon, MT
Alaska quadrangles - Craig, Gulkana, Dixon Entrance, Juneau, Taku River, Lime Hills, Sleetmute, Sitka, Howard Pass
Special Studies - Sierra Nevada, CA

Studies to be completed in FY 1996:

National Forests - Gallatin, MT; Custer, MT-SD; Payette, ID; Helena, MT; Routt, CO

BLM areas - Winnemucca, NV; Surprise, CA; Mimbres, NM; Malheur/Jordan, OR;
 Barstow/Ridgecrest, CA; Andrews, OR
 Alaska quadrangles - Bethel, Bradfield Canal, Livengood, Seldovia
 Special Studies - Muleshoe, AZ; Empire-Cienega, AZ; Interior Columbia River Basin

Question: What is the status of the overall assessment of U.S. mineral resources? What areas remain to be completed?

Answer: The status table on page 160 of the budget justification lists the mineral assessments underway or planned for FY 1996 for national forests, BLM resource areas, quadrangles in Alaska, and special studies. To date, the USGS has conducted quantitative mineral resource assessments for about 52 million acres, which represents about 8% of the 650 million acres of lands administered by the Federal government. From 1964 to 1980, the USGS conducted qualitative mineral assessments of about 45 million acres of additional Federal lands in response to requests from the land-management agencies responsible for carrying out the mandates of the Wilderness Act of 1964. About 15% of total Federal lands have been studied in detail. The Wilderness Act of 1964 mandated that the USGS shall conduct mineral surveys of wilderness lands on a planned and recurring basis.

In addition, the USGS is in the process of completing a prototype national mineral resource assessment for gold, silver, copper, lead, and zinc. Studies of remaining federal lands that require mineral information for development of land- and resource-management plans are needed as well as national studies for more than 75 additional commodities of national importance.

Question: How do these activities compare with those performed by the Bureau of Mines?

Answer: The USGS compiles and interprets geological, geochemical, geophysical, and mineral deposit information which describes the geologic environments of mineral deposits. The USGS also assesses the potential for the occurrence of undiscovered mineral resources, reported as quantitative, probabilistic estimates where possible.

The Bureau of Mines inventories historic and current mining activity, appraises both identified resources and those undiscovered resources for which a quantitative probabilistic estimate has been made by the USGS, and estimates the economic significance of the resources and their feasibility for development.

Question: According to your justifications (page 161), USGS is developing exploration and assessment strategies for concealed mineral deposits, which is supposed to help the domestic mining industry. Why aren't these activities conducted by the mining industry?

Answer: These activities are not conducted by industry because their research is site specific, that is, to find a mineral deposit. USGS research is regional in nature and has the objective of identifying areas that are likely to contain concealed mineral deposits. The goal of these USGS investigations is to assess the mineral endowment of the Federal lands. This kind of research is not generally done by private industry. Another difference between investigations by the USGS and by industry is that the USGS makes the results of investigations available to the general public. This gives the USGS work added value because it also provides equal benefits to the entire industry.

Question: What results have you obtained from the ongoing efforts in Arizona, Colorado, and New Mexico?

Answer: In Arizona, Colorado, and New Mexico, USGS efforts to improve techniques to assess the potential for and to locate areas favorable for the occurrence of concealed mineral deposits has focussed on geologic, geophysical, and geochemical studies in the Mogollon, New Mexico; Red Mountain, Arizona; San Luis, Colorado; and Red Mountain,

Colorado mineral districts and regions. The USGS studies have resulted in new and improved geophysical (magnetics), structural, and biogeochemical techniques to assess and identify areas likely to contain concealed mineral deposits around volcano margins and to track regional mineralized rock structures into subsurface basins.

Question: What level of funding is being devoted to these efforts in FY 1995 and FY 1996?

Answer: About \$0.6 million in FY 1995 and \$0.5 million in FY 1996 is directed toward studies in Arizona, Colorado, and New Mexico to develop assessment techniques for concealed deposits.

Question: According to the justifications (page 161), USGS is operating a new USGS Center for Russian Mineral Studies and plans to conduct a two-year cooperative USGS-Russian program to build a digital data base of Russian mineral deposit information and to conduct joint assessments. When was the USGS Center for Russian Mineral Studies established? What level of funding is being devoted to this Center? Is any of the funding for the Center provided by other entities besides USGS? If so, how much?

Answer: The Russian Center was established in FY 1994. The annual cost of the operation is about \$200,000. The U.S. Department of State (DOS) provides funding support for the Center. In both FY 1994 and FY 1995, DOS provided about \$100,000 for cooperative activities for the Center; the USGS provided the balance.

Question: What level of funding is being provided for the two-year cooperative USGS-Russian program to build a digital data base of Russian mineral deposits and to conduct joint assessments?

Answer: A total of \$100,000 is being provided over the two-year period.

Question: Does the FY 1996 funding complete or initiate the project? If the funding initiates the project, how much funding will be required in FY 1997? If the funding completes the project, how much funding was provided in FY 1995?

Answer: The funding for FY 1996 will allow completion of the digital data base of Russian mineral deposit information. There will be no funding required for FY 1997. About \$75,000 was provided in FY 1995 for this project.

Question: The House Report accompanying the FY 1995 Interior bill required a program plan for the mineral resource surveys subactivity to be submitted by May 1, 1995. According to the justifications, the plan will describe a five-year plan based on priorities of mineral issues and National needs. (page 161) What is the status of that report?

Answer: The National Plan for the Mineral Resource Surveys Program has been submitted to the Department of Interior for review and approval prior to submittal to Congress on May 1, 1995.

Question: Are the activities for which funding is requested consistent with the priorities which will be included in the program plan?

Answer: Yes, the budget justification and program plan are compatible.

Question: In FY 1996, USGS is implementing mineral-environmental assessments to accompany and complement USGS mineral-resource assessments. Why are USGS customers interested in the information which will be provided by the environmental assessments?

Answer: Land managers need information about the location, magnitude, character, and potential severity of contamination related to mineral deposits to understand potential impacts of development in particular geologic and climatic settings. Land managers need this information to make informed decisions about land use, to focus costly site-monitoring activities on critical areas, to formulate effective mitigation strategies, and to establish realistic remediation goals for mined areas.

Question: What additional funding is required for these environmental assessments?

Answer: No additional funding is requested for these environmental assessments. Funds provided for the assessment subelement will be used to conduct studies for both mineral-resource and mineral-environmental assessments based on the needs of the federal land managers.

Question: What additional information will the environmental assessments provide?

Answer: The development and implementation of mineral-environmental assessments will provide information on natural environmental signatures of undisturbed mineral deposits (for evaluating potential future contamination) and information of a predictive nature on the potential environmental consequences of mining and related activities. This information will be available for use in the land-planning process. Accompanying activities include increased emphasis on research into the processes and conditions that produce and minimize the detrimental environmental effects of mineral development and use.

Question: The USGS is expanding its efforts to assess nonmetallic resources, which includes sand, gravel, and construction aggregate needed for future development and infrastructure renewal. What is the FY 1995 and FY 1996 funding levels for these activities?

Answer: The level of funding for all industrial mineral activities in FY 1995 is \$0.7 million, and in FY 1996 it is about \$0.7 million.

Question: Will the FY 1996 level of activity for nonmetallic resources represent the expected ongoing level for this program, or is it expected to continue growing post FY 1996? If it is expected to grow, what is the ultimate level of funding envisioned for the program?

Answer: Funding for industrial minerals activities is expected to remain at about FY 1995 levels while funding devoted to other parts of the program will decline. National needs for USGS information on industrial minerals continue to grow, so, our financial support should ideally grow to about \$1 million per year by the year 2000.

Bureau of Mines Agreement

Question: In the Senate Report accompanying the FY 1995 Interior bill, USGS was to enter into an agreement of understanding with the Bureau of Mines to define the respective activities of each of these agencies relative to environmental activities. When was the agreement signed? What are the provisions of the agreement?

Answer: The agreement was signed September 9, 1994. The provisions of the agreement are summarized in the following list, which is part of the Memorandum of Agreement between the two agencies. These roles and responsibilities reflect the traditional strengths of the two agencies. USGS studies are geological and hydrological in nature and are focused on understanding the processes that cause contamination. The Bureau of Mines studies are engineering-based and concentrate on solutions for specific sites or problems, including technology development. Under the agreement, both agencies have formed a Standing Committee that meets on a regular basis to communicate and coordinate joint work.

Research and Development

- ▶ USGS Role: uses scientific approach to understanding geologic and hydrologic processes
- ▶ USBM Role: applies science to engineering solutions

Inventory

- ▶ USGS Role: maintains mineral, coal, and water databases to inventory sites and carry out environmental assessments
- ▶ USBM Role: (1) maintains database on mineral production, status of properties, and resource availability, (2) develops inventory protocols, and (3) identifies environmental and physical hazards at mine sites

Assessments

- ▶ USGS Role: conducts regional studies of current effects and predicts future consequences of mineral and energy development
- ▶ USBM Role: (1) prioritizes sites for remedial and feasibility studies, and (2) evaluates need for remedial studies at sites

Remedial Investigations

- ▶ USGS Role: (1) determine background and baseline conditions, (2) determines causes and impacts of mineral and energy development on the environment, and (3) assess contamination sources and timing
- ▶ USBM Role: (1) defines site specific problems, (2) studies engineering solutions to mineral related problems, and (3) evaluates and chooses remediation technology

Feasibility Studies

- ▶ USGS Role: predicts consequences of remedial actions
- ▶ USBM Role: determines feasibility and cost/benefit of remedial actions

Remediation

- ▶ USGS Role: not applicable
- ▶ USBM Role: develops remediation technology

Monitoring

- ▶ USGS Role: (1) conducts spatial and temporal watershed studies, (2) evaluates remediation success, and (3) conducts geochemical surveys
- ▶ USBM Role: not applicable

Question: According to the justifications, the number of regional assessment, mineral-resource investigations, and mineral-commodity geology studies will all be reduced in FY 1996 and funding for these activities has been reduced by \$1.5 million. (pages 168 and 170) What is the impact of reducing these activities?

Answer: This program reduction is proposed to the President's Budget in order to support higher priority programs. The reduction will (a) delay the completion of ongoing mineral assessments and reduce the number of assessments on public lands, resulting in uninformed public land managers and poor land-use decisions, (b) impede the development of new concepts of mineral resource formation, diminishing the capacity to improve predictive capabilities for new mineral resources, and (c) reduce the number of studies of the Nation's mineral commodities, decreasing the Federal expertise and knowledge base of

trends, locations, and availability of minerals which is needed in economic analyses and strategic planning.

Question: What are the components of the \$1.5 million reduction?

Answer: The components of the \$1.5 million reduction are a \$0.9 million decrease in ore-forming process studies; a \$0.2 million decrease in commodity studies; and a \$0.4 million decrease in assessments.

Energy Resource Surveys

Question: According to the justifications (page 172), "the Environmental Protection Agency and the Electric Power Research Institute have designated the USGS coal quality data base as the primary source of objective scientific coal-resources data used by both regulators and industry to address air quality issues, and to determine compliance with the 1990 Clean Air Act Amendments." If the USGS were abolished, who would likely be designated as the primary source of objective coal-resources data for use by regulators and industry?

Answer: We do not know of a single other agency that both Federal regulators and industry would agree to be the primary source of objective coal resource data.

Question: If the USGS funding were reduced significantly, would these particular activities be impacted?

Answer: Yes, significant reductions in funding would have a serious, negative impact on these activities. Assessments of energy resources including coal resources and coal quality are the primary focus of activities within the Energy Resource Surveys Program. This high priority will be maintained to the extent possible in the event of cuts in funding.

Question: USGS is working in partnership with tribal governments, the Bureau of Indian Affairs, and the Department of Energy on several ongoing projects to provide detailed assessments of energy resources and potential environmental impacts of energy development on Native American reservations. What specific projects are being undertaken?

Answer: The specific Energy Resource Surveys Program projects that impact energy development on Native American reservations are: 1) Evaluation of the environmental significance of coal quality data, Navajo Reservation, AZ, NM, and UT; 2) The relationship of near-surface methane to hydrocarbon occurrence, Southern Ute Reservation, CO and Jicarilla Apache Reservation, NM; 3) Gas resources and sandstone reservoirs of the Wind River Reservation, WY; 4) Assessment of oil, gas, and gravel resources of the Standing Rock Sioux Reservation, ND, and SD.

Question: What are the relative funding levels for each of the cooperators for these projects for FY 1995 and FY 1996?

Answer: The relative funding levels for each cooperator in FY 1995 and FY 1996 are as follows: Projects 1 through 3 (identified in the above answer) are funded at \$33K per project in FY 1995 by the Department of Energy; Project 4 is currently funded the Bureau of Indian Affairs, Division of Energy and Mineral Resources at \$124K spread over both FY 1995 and FY 1996.

Question: When are these projects expected to be complete?

Answer: These projects are currently scheduled to be completed as follows: Projects 1 through 3 were completed in February 1995 (FY 1995); Project 4 is scheduled to be completed by January 1996 (FY 1996).

OCS Mineral Assessments

Question: The USGS has provided hydrocarbon resource potential information for the area off the western coast of Florida to the Department of Justice for use in litigation concerning the Outer Continental Shelf (OCS). What is the role of the USGS in resource assessment relative to OCS buybacks in the Gulf of Mexico or elsewhere?

Answer: The role of USGS resource assessments relative to OCS buybacks in the Gulf of Mexico or elsewhere is to provide objective, non-advocacy information on the resource potential of an area that can be the basis of sound decision making by the Department of Justice or other Federal agencies.

Gulf of the Farallones

Question: The Gulf of the Farallones is located near the San Francisco Bay and is the site of the Gulf of Farallones National Marine Sanctuary. Between 1946 and 1970 more than 47,000 fifty-five gallon drums of low-level radioactive wastes were dumped there and now litter the sea floor within the marine sanctuary. What is the FY 1995 and FY 1996 funding level for USGS activities in the Gulf of the Farallones?

Answer: USGS funding for activities in the Gulf of the Farallones in FY 1995 is approximately \$750,000 and is projected to be approximately \$500,000 in FY 1996. USGS is also receiving funding from the Environmental Protection Agency in FY 1995 for studies in the Gulf of the Farallones area.

Question: What is the extent of the problems in the Gulf of the Farallones and how long are the USGS efforts expected to last?

Answer: The problems in the Gulf of the Farallones associated with the waste barrels concern the location and condition of the containers. The location of the barrels is not well known, and part of USGS effort has been devoted to developing methods for locating groups of barrels. An additional issue that requires sea-floor information in the Gulf of the Farallones area is the need to identify an offshore disposal site for dredge materials from commercial ports in the San Francisco Bay. USGS is providing information to the Environmental Protection Agency to help assess potential disposal sites located near the sanctuary. USGS efforts are expected to last through FY 1996.

Facilities

Question: In FY 1996, GSA is scheduled to begin design work to renovate and upgrade approximately 95,000 square feet of National Center laboratory space. The project is estimated to take approximately five years and is estimated to cost \$42.9 million, with the USGS portion estimated to be approximately \$11.2 million. (page 265) What portion of the \$11.2 million is included in the FY 1996 USGS budget request? If no funding is provided in FY 1996, what would be the likely impact to the project?

Answer: FY 1996 costs for the USGS share of design are estimated at \$0.7 million. GSA generally will not enter into contracts for design or construction work without a commitment from the tenant agency. The commitment is the agency's transfer of a share of project funding to GSA for the contract. If the USGS does not provide its share of FY 1996 funding, we believe that GSA would suspend further work on the project.

Question: If GSA funding is significantly cut in FY 1996, what would be the likely impact on this project?

Answer: While the upgrade of the National Center laboratories, which were mostly constructed more than 20 years ago, is a top facility priority for the USGS, we do not know the project's priority relative to GSA's other renovation projects.

Question: What would be the impact to USGS if the laboratory facilities were not upgraded?

Answer: The USGS National Center laboratories will be approximately 30 years old when construction will be completed in 2003. While a few of the labs have been modernized over the years, we have relied too heavily on interim repairs and makeshift accommodations to overcome inadequacies and deteriorated laboratory-support systems. These cannot substitute for the much-needed, comprehensive modernization project to meet mission requirements for laboratory-based research and analysis. Deferring the laboratory upgrade will prolong and exacerbate conditions that impair quality and timely laboratory analysis.

Question: In FY 1996, the request for facilities for USGS is \$23,338,000, an increase of \$519,000 over FY 1995, including an increase of \$484,000 for rental payments for the National Center, an increase of \$22,000 for facilities management payments for the National Center, and \$13,000 for rental payments for day care centers. (page 273) What is the cause of these increases?

Answer: The rental increases stem from higher GSA charges, which reflect annual adjustments based on prevailing local market rates for space. The \$22,000 is for uncontrollable changes and costs related to the National Center - Facilities Management Program Element.

Question: Will the rent be increased once the laboratory space is renovated in the National Center? If so, what will be the additional costs?

Answer: GSA's methodology for assessing rent for laboratory space is based on a "construction ratio" reflecting the costs of constructing laboratory space relative to those for constructing office space. For an existing building, there is an established record of GSA Rent rates, which are based on prevailing local market rates for space. Since there is seldom laboratory space in most localities, GSA uses the construction ratio to derive the laboratory rates from appraised office space rates. On this basis, we would not expect that the upgrade would increase the rates the USGS pays for National Center laboratory space. However, there is no guarantee that this methodology will remain unchanged. Also, because the upgrade project extends over a number of years and will not be completed until 2003, estimates of possible rate increases would be speculative.

Question: What is the status of the construction of the USGS National Water Quality Laboratory at the Denver Federal Center? (Page 265) What is the associated FY 1996 funding and where is it budgeted?

Answer: The National Water Quality Laboratory was scheduled for completion by November 1996. However, in late September 1994 Congressional conferees eliminated construction funding for this project (and a number of others) from the GSA's FY 1995 appropriation. GSA amended its FY 1996 Capital Investments and Leasing Program to reinstate the project, but has not provided us a revised project schedule yet. Using GSA's previous project milestones, we anticipate that GSA would be able to award the construction contract in December 1995. The new laboratory would be ready for occupancy in November 1997. Based on GSA's estimates, we project our remaining costs to be \$4.4 million. This is budgeted in the Water Resources Division.

Question: If funding for the General Services Administration (GSA) is reduced significantly, is it likely that this project would be affected?

Answer: GSA has demonstrated consistent support for this project, as evidenced by its decision to reinstate it in FY 1996 after the FY 1995 funding was eliminated. We believe that GSA's decision to construct a replacement facility on the Denver Federal Center recognizes not only the need for upgrading the labs but also the benefits of housing the labs

in Government-owned rather than leased space. While the National Water Quality Laboratory is a top facility priority for the USGS, we do not know its priority relative to GSA's other construction projects.

Question: What is the status of the new USGS facilities in Menlo Park, California? (page 265) When will USGS occupy the new facilities?

Answer: Construction on the 96,000 square foot office/laboratory building is progressing well. In February 1995 the construction firm continued work on the masonry veneer, the interior metal wall framing, ductwork, and the exterior precast walls. (Work on the smaller paleomagnetic lab is also progressing well.) Construction is scheduled for completion in spring 1996.

Question: Are there any additional costs to USGS as a result of occupying the new Menlo Park, California, facilities?

Answer: There are about \$1.2 million in remaining costs for the physical move into the new buildings, for cleaning up hazardous materials at the vacated buildings, and for restoring the vacated leased premises to the condition they were in when we originally occupied them. (The last cost item stems from a lease requirement that we are contesting through GSA.) We also expect to pay higher GSA rent for the new buildings primarily because the new space is replacing lower-cost space in older buildings and significantly lower-cost space in trailers and temporary structures. While the net amount of space is increasing only slightly, we will have more high-cost space types such as laboratory and structurally changed space. We estimate our annual rental costs will increase by about \$2.1 million. For the part of FY 1996 that we will occupy the new lab building, the increased costs will be about \$1.2 million.

Global Climate Change

Question: The USGS is part of a multi-agency U.S. Global Change Research Program to study the impacts of changes in atmospheric carbon dioxide. What is the total amount of funding for the USGS portion of the multi-agency global change program for both FY 1995 and FY 1996.

Answer: Total funding for the USGS global change program is as follows (dollars in thousands):

FY 1995 (Enacted)	\$22,830
FY 1996 (Requested)	\$23,014

Question: How long are USGS carbon cycle studies expected to last and when are studies expected to produce results?

Answer: Scientists generally agree that a full accounting of carbon in the terrestrial environment will require several decades. The USGS carbon cycle studies are designed to facilitate data collection and research lasting 15 to 25 years. However, given that a number of the USGS studies were purposely located at sites having a preexisting base of data collection and research, these studies are already producing important results. For example, a recent USGS report indicates that soil and biomass in aggrading temperate forests represent small but significant carbon sinks and may be a more important factor in the "missing carbon" problem than previously thought.

Washington Administrative Services Center

Question: The FY 1996 budget request for USGS includes an increase of \$1 million to support new initiatives related to the National Performance Review. According to the justifications (page 271), the increase will support integration of the Interior Department

Electronic Acquisition System (IDEAS) with the Federal Financial System (FFS), including the salaries and expenses for 12 additional full-time equivalents. What specific activities will be supported with the additional funding and what are the long-term savings associated with implementing these activities?

Answer: The \$1,000,000 increase in FY 1996 will cover salaries and expenses for 12 additional FTEs and supporting services necessary to provide the continued maintenance and support of IDEAS for the bureau's operation on the system. It will also provide an adequate level of resources to respond to new requirements fostered by the NPR and other Administration initiatives, such as EDI/electronic commerce, which go beyond the original IDEAS target objectives but were not included in the original IDEAS budget requests. The pace of change in the areas of automation and integration of administrative systems has increased and the DOI's response to the goals and objectives of the NPR has increased correspondingly. New initiatives, such as electronic commerce, and acceleration of ongoing activities, such as the integration of IDEAS with the Federal Financial System (FFS) and the Fixed Assets subsystem are essential in order to streamline operations in other major administrative functions and are critical to the Department's ability to achieve procurement related objectives contained in the DOI streamlining plan. Savings for initiatives such as electronic commerce have already been included in calculations of streamlining savings and FY-1996 budgetary requests throughout the Department. In addition, FY-1995 budgetary amendments submitted to the Congress by the President lowered funding for the bureau by \$9.849 million, due to savings from reinvention of the procurement system, including reductions in the costs of goods and services achieved through implementation of electronic commerce.

Question: How much is requested Department-wide for the Interior Department Electronic Acquisition System (IDEAS)?

Answer: Total FY-1996 USGS funding for IDEAS is \$3.750 million, which includes the requested \$1 million increase described above. In addition, approximately \$1.0 million is being requested for IDEAS implementation in other bureaus within the Department.

Question: What is the total estimated cost of implementing the IDEAS system?

Answer: The total IDEAS 10 year contract award amount is \$27.7 million. The IDEAS Benefit/Cost Analysis, which justified the Department's proceeding with the project, estimated the costs over a 9 year system life to be \$61.3 million.

Question: Will the 12 additional FTEs come from elsewhere in USGS or the Department, or will they be new hires from outside?

Answer: The FTE slots are an increase to the WASC's authorized FTE level assigned by the Department. Most of the additional 12 FTE positions will be filled through the competitive vacancy announcement process. We expect to have many strong candidates from Interior bureaus.

Question: What specific positions will be filled by the additional FTEs?

Answer: The additional 12 FTEs, will include technical ADP specialists, systems analysts and procurement specialists who will work closely with department and bureau personnel to provide the required IDEAS post-implementation support, as well as supporting the larger number of locations targeted for electronic commerce.

Geologic Framework and Processes

Question: According to the justifications (page 126), seven geologic mapping education projects are to be initiated in FY 1996. What are the seven geologic mapping education

projects which are expected to be initiated in FY 1996? What is the associated cost of each of these projects?

Answer: The exact location and makeup of the geologic mapping education projects is not yet known. The USGS is in the process of identifying a mechanism for implementing the educational mapping component of the program. The decisions as to which projects to fund will be based on proposals submitted and evaluated by the program. A Request for Proposals will go out in late summer or early fall of 1995 for proposals for geologic mapping education projects in FY 1996. FY 1996 will be the first year for implementation of this part of the program. The USGS anticipates funding between 3 and 11 (or about 7) geologic mapping education projects. The average cost per project will be about \$60,000.

Geologic mapping is rapidly becoming a lost skill at a time when its utility for addressing social issues and affecting economic decisions is growing. Most geologic mapping by graduate students is done as part of a topical study. Systematic geologic mapping of a region is not normally part of a graduate program. Through the geologic mapping education projects, the USGS intends to increase the pool of qualified geologic mappers. This is a skill that is needed to efficiently resolve many land-based issues faced by all sectors of society and government as well as industry and private citizens.

Continental Surveys

Question: The USGS is conducting a five-year crustal experiment in the Cascadia region of the Pacific Northwest, which is collecting geologic data along three corridors in southern Washington, Oregon, and Northern California. USGS is cooperating with State, university, and Department of Energy scientists. What are the respective activities and funding levels for each of the cooperators for this five-year crustal experiment?

Answer: Those cooperating with the USGS on the Cascadia project include Lehigh University, Oregon State University, Rice University, Stanford University, University of Texas El Paso, University of Washington, Woods Hole Oceanographic Institution, The State of Oregon - Department of Geology and Mineral Industries, The State of Washington - Division of Geology and Earth Resources, Department of Energy, Weyerhaeuser Industries, Mobil Corporation, Chevron Corporation, Atlantic Richfield Corporation, and LBI Geophysics.

A university consortium comprising Lehigh, Oregon State, Rice and Stanford Universities was funded by NSF for FY 93-95 (\$1.2 M) for cooperative offshore seismic surveys of the seismically active Cape Mendocino and southernmost Cascadia subduction zone regions, Northern California and for cooperative onshore seismic surveys of crustal structure in the Cape Mendocino region.

Another university consortium comprising Oregon State University and the Universities of Texas El Paso and Washington was funded by NSF (FY 1995 funding \$260K) for cooperative onshore and offshore deep seismic refraction surveys in western Washington and Oregon.

The State of Oregon, Department of Geology and Mineral Industries, spent an estimated \$70K for cooperative geologic mapping on the Tyee basin, southern Oregon Coast Range.

The State of Washington, Division of Geology and Earth Resources, spent an estimated \$50K for digital compilation of geologic mapping in areas of our seismic surveys in Washington.

Woods Hole Oceanographic Institution spent approximately \$50K for geochemical studies of the origin of the basaltic crust of the Oregon Coast Range.

Several corporations, Weyerhaeuser, Mobil, Chevron, ARCO, and LBI Geophysics, donated seismic reflection data collected in Oregon and Washington. If collected today, these data

would cost millions of dollars. Their current value in the exploration business is approximately \$100-200K.

Although not a cooperator in FY 1995, from 1983 through 1993, DOE spent approximately \$3M for magnetotellurics, magnetic and gravity data, and seismic reflection data in the region of the Southern Washington Cascades Corridor.

Question: What is the status of the experiment? What is left to accomplish?

Answer: All aspects of the project have met or exceeded prescribed mileposts and other performance measures, and the project is on schedule. The structure of the offshore subduction zone fault has been well characterized in the Northern California and southern and central Oregon coast regions. The upper-plate faults and the volcanic structure of the southern Cascades have also been imaged using seismic and potential field (magnetic and gravity) data. These data have resolved longstanding controversies of plate structure and continental dynamics affecting earthquake and volcanic hazards in northern California and southern Oregon.

Seismic, magnetic, and gravity data will be collected along a transect across southern Washington in August and September of this year.

In the next two years, the offshore extension of the southern Washington transect will be conducted to image the Washington subduction zone fault. This effort may involve an international cooperation with GEOMAR, the marine geophysics group from University of Kiel. The final part of the experiment will involve studies along a north-south corridor that coincides in part with the urban corridor that will connect the three east-west transects in California, Oregon and Washington with emphasis on the seismic imaging of earthquake faults and source regions beneath Puget Sound and the Portland-Willamette basins. This part of the experiment will likely involve a cooperative effort with the Canadian LITHOPROBE project.

Question: How much is requested in FY 1996 and how much was provided for the same activities in FY 1995?

Answer: An amount of \$810K has been requested for the Cascadia crustal experiment in FY 1996. In FY 1995, the same amount (\$810K) was provided for this experiment. There is no overlap of activities. FY 1996 funds will support new work to be completed as consistent with project plans and objectives and in keeping with target achievements.

Question: In FY 1996, the USGS will continue large-scale geophysical experiments in the Grey's Harbor-Mt. Rainier area of Washington State. What is the status of these experiments in the Grey's Harbor-Mt. Rainier area of Washington?

Answer: The onshore component of the seismic portion of the experiment will be conducted this September. At the moment, work to delineate the final design of the seismic experiment and permitting with appropriate State agencies is being carried out. The seismic experiment will involve the efforts of those from three USGS programs (Continental Surveys, Earthquake Hazards Reduction and Volcanic Hazards), the University of Washington, the University of Texas at El Paso, and Oregon State University (combined funding of approximately \$400K) and the Geological Survey of Canada who will supply 250 instruments. Overall more than 800 instruments will be deployed.

In addition to the seismic experiment, magnetic surveys will be flown over a portion of the seismic transect this summer and other surveys including geologic mapping to cover areas for which no adequate mapping exists, and other essential geophysical and geochemical studies will also be conducted this summer.

Question: How much funding is requested for these activities in FY 1996 and how much was provided in FY 1995 for the same activities?

Answer: Within the funding noted above for the entire project (\$810K), \$335K has been allocated for these activities in FY 1996. In FY 1995, \$350K has been committed to this part of the project. The seismic survey will be conducted in two parts. Most will be done in September and the remainder will be completed in October. Because of the size and expense of the experiment, its execution was planned for two fiscal years. A September start was also dictated by the elaborate and extensive collaborations with other groups. Data reduction will be conducted in FY 1996. There is no overlap or repetition of activities.

Question: The USGS is cooperating with Oregon State University, the University of Texas at El Paso, and the University of Washington to complete a high resolution seismic experiment. What was learned from this experiment across Washington and the Cascades volcanic arc?

Answer: Execution of the experiment is scheduled for September and October, 1995. Other geological and geophysical studies in support of the seismic experiment indicate that earthquakes are concentrated in zones that may represent boundaries of large crustal blocks that are moving slowly northward at about 0.5 meters per century toward Vancouver Island. This northward movement and the rotational movement of the blocks themselves are a potential source of seismic hazards. Work to date suggests that there are striking similarities between the geological settings of the Washington Cascade area and that of the Kobe region of Japan. A significant potential seismic hazard may exist along east-west faults that result from block rotation and northward migration. The results of this regional crustal experiment have allowed development of a new conceptual understanding of crustal motions in Cascadia that have in turn allowed a quantitative understanding of faults whose significance was not appreciated heretofore.

Question: Will the results of this experiment help in accurately predicting the future of earthquakes in Washington State?

Answer: Results for this experiment will provide more accurate locations of earthquakes and more accurate delineations of potential earthquake faults in southwest Washington. Knowledge of the kinds of faults, their orientations and direction could result in data and information useful to those developing and revising building codes so that buildings can withstand the kinds of accelerations expected during earthquakes.

Question: Is any funding requested for any related activities in FY 1996? If so, how much?

Answer: Additional activities to be undertaken as part of the Cascadia regional crustal experiments include an offshore seismic survey in southwest Washington, aeromagnetic surveys in the Puget-Willamette lowland to look for hidden faults, analysis of industry seismic data in the Puget Sound area, and geologic studies of the evolution of the Cascade volcanic arc and its structure. Funds requested for these studies total \$290K.

Question: According to the justifications (p. 131), experimental and theoretical studies have demonstrated a link between the reactions among common minerals in ocean crust that is descending into the mantle, intermediate-depth earthquakes (up to magnitude 8), and volcanic activity. What is the link between these geological occurrences and what is its significance?

Answer: New data reveal that minerals in the downgoing ocean crust change to denser forms at depths of 100 to 150 km. These reactions are triggered by the ingress of fluids from greater depths, and relatively large volumes of ocean crust undergo rapid densification (the volume is reduced by as much as 15%). This volume reduction in turn likely causes certain kinds of subduction zone earthquakes. Coincidentally, the fluid influx and frictional

heating from fault movement causes melting in the overlying mantle that leads to volcanism. An increase in volcanic activity should postdate the earthquake events.

The significance of these results is that they provide a conceptual framework for quantitative assessment of certain types of earthquake hazards and ensuing volcanic hazards. This broader understanding of dynamical processes occurring at continental margins in subduction zone areas not only improves the overall assessment of risk from earthquake and volcanic hazards, but may also help quantify the distribution and types of ore deposits found in areas of volcanic arcs.

Mapping

Question: How much of the computer map data is currently produced through cooperative work-share or data-exchange arrangements with Federal and State agencies and other organizations? How do the FY 1996 efforts compare with the FY 1995 efforts? (p. 50)

Answer: Twenty three percent of digital geospatial data are currently produced through cooperative work-share or data exchange arrangements with Federal, State, and local government agencies. Work-share and data exchange arrangements have been increasing in number over the last two to three years and are planned to exceed 25% in FY 1996.

Question: What is the cost associated with completion of the 1:100,000 scale digital elevation model coverage by the end of FY 1996?

Answer: The current estimated cost for completing 1:100,000-scale digital elevation model coverage for the conterminous United States by the end of FY 1996 is \$1,320,000, spread over two years.

Question: For the 85 primary-scale maps produced for use by the U.S. Forest Service, how much funding is being provided by the Forest Service?

Answer: The Joint Map Edition Program, cooperatively supported by the U.S. Forest Service and the USGS, is being conducted largely as a work-share arrangement. Both agencies are revising 1:24,000-scale topographic maps for selected lands within the National Forest System, as well as producing supporting data such as digital elevation models and digital orthophotoquadrangles. To date, the Forest Service has contributed approximately \$300,000 to the USGS to fund the production of digital orthophotoquadrangles for use in updating topographic maps within this program.

Question: What specific activities will be supported with the increase of \$2 million for high priority data? What is the impact of not providing this increase?

Answer: The USGS has estimated that the funds will enable the production of approximately 3,000 digital maps and more than 900 digital orthophotoquads. This estimate was based on data requirements trends exhibited over the past two years of satisfying high-priority digital geospatial data requirements. However, the precise data requirements and the specific applications being supported in FY 1996 will be established through a meeting with Federal and State agencies during mid-FY 1995. Programs supported during FY 1995 include: the Forest Plan for the Pacific Northwest; transborder issues in the Lower Rio Grande River basin; the North American Free Trade agreement; cooperative efforts in the Great Plains Grasslands; transportation and other issues in the National Park System; the White House Interagency Floodplain Management Task Force; and education, law enforcement, and other tribal issues on Indian lands. The FY 1996 high-priority programs are likely to address similar issues.

Question: When is coverage of the orthophotoquads expected to be complete? What priority is this activity?

Answer: When the National Digital Orthophoto Program founding organizations were unable to obtain appropriations to support the five-year program, proposed to begin in FY 1993, the basic premise of the program was changed to match the funding levels each agency was able to provide. The program approach changed from acquiring national coverage to addressing the highest priority needs of the founding members, plus the needs of contributing organizations. Therefore, no plan is in place to complete coverage by a specified date.

The digital orthophoto program is the highest priority data production program within the National Mapping Program. The USGS, the National Resources Conservation Service, the Consolidated Farm Services Agency, and the U.S. Forest Service all contribute significant resources and effort to supporting this program. Contributions from external sources to support this program exceed contributions for all other data production programs.

Question: What specific activities will be funded with the \$3,199,000 increase for data cooperatives/partnerships? What portion of the funding will go for each component of the increase?

Answer: The funding will be allocated as follows:

\$1,300,000 will be used to enhance the electronic accessibility of data and to create and manage data according to national standards. Increasing availability of data will decrease redundancy and duplication in National data production efforts.

\$1,200,000 will contribute to the development of guidelines for partnerships for framework data through a series of pilot studies. These guidelines will provide the ability for agencies to create framework data that can be used by multiple organizations, will minimize redundancy in data collection, and will enhance the ability to use geographic information system technologies for information management and analysis. State and local governments and the private sector will also benefit through increased access to geospatial data.

\$700,000 will be used for digital geospatial data acquisition during FY 1996. These funds will support the acquisition of 1:100,000-scale hydrography, transportation, and boundary framework data over major metropolitan areas in the U.S. in support of the *2000 Decennial Census of the Population of the United States*, the acquisition of digital orthophotoquadrangles and high-resolution digital elevation models in South Florida to support hydrologic modeling and vegetation analyses, and the acquisition of updated hydrographic data over selected sites in Alaska to support various Federal and State requirements related to oil and gas exploitation, fisheries management, and tourism, among other issues.

Question: For which States has USGS produced Gazetteers and what is included in these gazetteers? (p. 62)

Answer: USGS has published gazetteers for the States of Arizona, Delaware, Florida, Indiana, Kansas, New Jersey, North Dakota, and South Dakota. The gazetteers list the official names of places, political entities, reservations, hydrologic features, and land forms with their geographic locations. In addition, USGS has published the concise volume of the National Gazetteer, containing information about approximately 40,000 major places, administrative areas, and physical features.

State volumes of *The National Gazetteer* series are derived from the National Geographic Names Database (NGNDB) of the Geographic Names Information System (GNIS). GNIS is the Federal Government's official repository of domestic geographic feature name information. The NGNDB is being compiled in two distinct phases. The first phase is complete for States and areas under United States jurisdiction, and entailed the collection of feature names printed on the 1:24,000-scale topographic maps published by USGS and the

U.S. Forest Service as well as the charts of the National Ocean Service. The second phase is a long-term project to gather additional names information from other Federal and State materials, as well as from a wide variety of historical documents. This second phase is being accomplished on a State-by-State basis.

Because of limited resources, current efforts are concentrated on completing GNIS Phase II data collection rather than publishing individual State volumes of the National Gazetteer.

Question: What is included in the Digital Gazetteer of the U.S. and how does the Gazetteer differ from the National Atlas? (p. 62)

Answer: *The National Digital Gazetteer* is a compact disk that contains data from the Geographic Names Information System at the time the disk is created. It contains all the data present in the State gazetteer volumes, as well as data collected since the gazetteers were published, and data collected for features in States for which no State gazetteer volume has yet been published. Additional fields of information are present on the compact disk, including historical notes on a limited basis. Most importantly, *The National Digital Gazetteer* is fully searchable, and data contained on the disk can be used in other digital systems.

The National Atlas is a series of maps that depict numerous political, social, economic, and scientific information on base maps of the United States. The information in GNIS (from which *the National Digital Gazetteer* is derived) could provide many of the entries in the index of a renewed National Atlas project, whether graphic or electronic.

Question: What is the cost and status of the addition to the EROS Data Center? Is additional funding required to complete this project? What is the total cost of the project? (p. 62)

Answer: The EROS Data Center building addition will house an expanding National Satellite Land Remote Sensing Data Archive, including the recently declassified reconnaissance satellite data, and satellite ground-system equipment for processing and distributing land and land-related data acquired from NASA's Earth Observing Systems (EOS) and Landsat 7. In FY 1994 Congress reduced EROS Data Center building addition appropriations from the requested \$12.6 million to \$9 million over two years, \$5 million in FY 1994 and \$4 million in FY 1995. However, during appropriations discussions, the USGS made Congressional committees staff and members aware that some finishing work internal to the addition would continue beyond initial construction.

In May of 1994, a construction contract was awarded to build the \$9 million "bare-bones" structure to meet the mission requirements then predicted for the time of addition completion. Construction began in June 1994, is progressing on schedule, and should be completed in January 1996. At that time, the building will be ready for occupancy and delivery of Landsat and EOS data processing equipment. As a result of the lower funding level for construction, the USGS intends to add finished space, fixtures, and furnishings within some areas of the addition over the next 2 or 3 years in order to bring the addition to full functionality.

Question: What is the relationship between the National Geospatial Data Clearinghouse and the National Atlas activities? (p. 81)

Answer: The National Geospatial Data Clearinghouse is a mechanism to serve, share, query, and access all types of geospatial data. These are data that will be made available by Federal, State, and local agencies, as well as the private sector. Most of these data will be described and served on the Internet. Users of data will be able to search for data based on various description parameters such as quality, geographic extent, data source, and currentness. In many cases, users may be able to download data directly from the Internet. Numerous Federal agencies are now making data available over the Internet. For

example, the USGS node in the Clearinghouse describes its geospatial data products by geographic area, map scale, and portrayed features, such as the transportation network, hydrography, and topography. Information about an electronic National Atlas, if it were to be developed, would be included in the Clearinghouse just like other digital information resources that are available from USGS. That information would describe the many topics that would be portrayed on the National Atlas maps. Users would be able to electronically access topics of interest.

Question: What are USGS's efforts in relationship to the 2000 Decennial Census? What funding is required in FY 1996 for this effort? What would happen if these funds were not provided? What priority is this funding?

Answer: USGS is updating transportation, hydrography, and boundary framework data for major metropolitan areas. Approximately \$2.5 million will be required during FY 1996 to support this effort. If the funds are not provided, and if the effort is still considered sufficiently important to provide resources against, USGS will have to reduce efforts in other important program areas to support the Census activity. This would adversely affect the ability of the USGS to meet the needs of established data customers for these other data sets, including other programs within the Federal sector, as well as State programs. The Census support activity will be among the highest priority programs within the National Mapping Program during FY 1996.

Volcanic Hazards

Question: What is the nature and level of the support provided by the Department of State to work with USGS in assisting the Philippine Institute of Volcanology and Seismology in monitoring Pinatubo volcano and other restless or active volcanoes in the Philippines? (p. 111)

Answer: The Department of State (Office of Foreign Disaster Assistance) provided \$250,000 in 1992 for follow-up assistance after the eruption of Pinatubo. Remaining funds are being expended to provide seismic and deformation monitoring equipment, for field work by a USGS scientist to study the deposits from the eruption, for travel to the Pinatubo Lahar Workshop at Pinatubo on October 17-21, 1995, and for two people to come from the Philippines for study at the Center for the Study of Active Volcanoes in Hilo, Hawaii.

Question: As a result of USGS analysis of airborne sulfur dioxide from the 1989-1990 eruption of Redoubt Volcano, USGS has determined that earlier estimates of sulfur dioxide emission for past volcanic eruptions may be seriously underestimated. What implications does this finding have? (p. 113)

Answer: Sulfur dioxide input to the atmosphere is an important part of understanding climate change. For eruptions in the recent past (before instruments were available and for those only recorded in the geologic record), estimates of emissions are based on the geologic record. The data from analysis of deposit samples allow an estimate of exsolved sulfur dioxide. Comparison with measurements of actual emissions at Redoubt shows that more sulfur dioxide is emitted than the estimate based on the data from the deposit samples. The implication is that there is a free gas phase of sulfur in the magma at depth before it is erupted. The importance of this finding is twofold: Sulfur is an important element in the study of climate change, and volcanoes are an important source of sulfur to the atmosphere. Extra volcanic sulfur changes the budget of sulfur input to the atmosphere. This finding is also important in demonstrating the existence of a free gas phase in magmatic systems at depth that changes our models and understanding of the possible eruptive behavior of volcanoes.

Question: What changes in land-use planning, if any, were suggested by USGS scientists at the Geological Society Annual meeting in Seattle? (p. 113)

Answer: Consistent with its role as a fact-finding agency without regulatory responsibility, the USGS made no recommendations or suggestions for change in land-use plans as a consequence of volcano hazards from Mount Rainier at the Geological Society of America annual meeting in Seattle. Instead, a USGS presentation at the meeting contrasted the approaches being taken by Pierce County and the community of Orting to ensure public safety from the volcano hazards. Pierce County's land use plan prevents the construction of critical facilities and permits only low-intensity development in the upper Puyallup River valley. In Orting, a small community located at the head of the valley in Pierce County, high density development is occurring at a rapid pace and city officials are seeking ways to provide immediate emergency warning to residents in the event of a sudden, unexpected volcanic mudflow from Mount Rainier. Pierce County uses USGS information about volcano hazards from Mount Rainier to identify areas subject to future volcanic mudflows and Orting has requested USGS information about volcano monitoring and mudflow warning systems.

Question: What is the current state of knowledge concerning earthquakes induced by geothermal development? (p. 113)

Answer: Most active geothermal systems naturally produce microearthquakes, and exploiting geothermal resources often causes increases in earthquake activity. These earthquakes are usually small to moderate in magnitude, but they also are shallow, and sometimes can damage human structures and industrial equipment. At the same time, the earthquakes can be used to obtain valuable information about conditions at depth and processes taking place during geothermal exploitation. The Geysers geothermal area in northern California, the largest geothermal development in the world (currently producing about 1300 megawatts), experiences about 140 earthquakes per month with magnitudes above 1.2, and a few of these earthquakes have exceeded magnitude 4. Earthquakes have increased in number and spread geographically along with steam extraction. Geodetic measurements show that steam withdrawal is straining rocks near The Geysers at a rate several times greater than the tectonic deformation that causes most California earthquakes. Both steam withdrawal and water re-injection stimulate earthquakes, and several physical processes are thought to be involved, including contraction of the reservoir host rocks, thermal stressing, and changes in the frictional behavior of faults, but their relative importance are still being studied. Recent advances in studying earthquake mechanisms will be used to try to resolve this question. In addition, sophisticated detection and recording of seismic waves from geothermal earthquakes now gives us three-dimensional images of sub-surface conditions that can be used to monitor the location and properties of geothermal fluids during exploitation.

Reimbursable Program

Question: Why are obligations for the reimbursable program expected to decline from \$307.1 million in FY 1995 to \$301.1 million in FY 1996?

Answer: The three major reductions occur in the reimbursable program between FY 1995 and FY 1996. One is in the Saudi Arabia program through the State Department, which has been gradually declining and is reduced by \$2 million. In addition, the National Science Foundation is expected to provide \$2.8 million less in FY 1996 than FY 1995, and the Environmental Protection Agency will provide \$1 million less.

Water Resources

Question: What is the status of the ground-water inflow for the Retsof Mine in New York? What is the USGS involvement in the situation? Has the situation been stabilized? (p. 192)

Answer: Since the initial collapse on March 12, 1994, ground water draining from overlying aquifer systems has been progressively flooding the mine at rates averaging about

18,000 gallons per minute. As of March 27, 1995, the mine was approximately 60 percent flooded (New York State Department of Environmental Conservation Retsof Mine Task Force Briefing, 3/29/95).

USGS, in cooperation with the Livingston County Department of Health, is assessing the hydrogeologic effects of the partial collapse of the Retsof Mine on the regional aquifer system in the Genesee River valley. The large-scale aquifer drainage associated with the partial mine collapse has caused water levels to decline in a number of local wells, some of which have gone dry. Since March 1994, USGS has assisted in establishing a regional ground-water level monitoring network to observe the rate, magnitude, and extent of aquifer drainage related to the mine collapse. In June 1994, an expert team from USGS compiled recommendations for further short- and long-term studies to address the major issues of public safety, aquifer drainage, and subsidence. USGS continues to monitor ground-water levels in the area and is constructing a preliminary numerical ground-water flow model to assess the long-term impacts of the partial mine collapse on the regional ground-water flow system.

The mining company (Akzo-Nobel Salt Inc.) determined that grouting operations to stop the ground-water inflow to the mine were not feasible. Water levels in some aquifers continue to decline as a result of the large-scale aquifer drainage that is occurring as the mine floods (from south to north). Mining is continuing in the northernmost part of the mine. Based on average inflow rates and the location of the main access shaft, the company estimates that mining will have to cease this summer and that the mine will be completely flooded by December. The company is currently working on a draft environmental impact statement for a potential new mine site in the Hamptons Corners area of Livingston County.

Question: What information is contained in the synthesis reports for the three regional aquifers to be completed in FY 1996? (p. 195)

Answer: The synthesis report of the Michigan Basin will provide a quantitative definition of the hydrogeologic framework needed to simulate ground-water flow in order to aid management of the ground-water resource in a basin where movement of saline water toward pumping centers is an ongoing problem.

In the Puget-Willamette Lowland synthesis report, the hydrogeologic framework for both the Puget Sound Lowland and the Willamette Lowland is summarized. The effects of high altitude land surface and adjacent embayments on ground-water flow are demonstrated by cross-sectional ground-water flow models.

The synthesis report of the Edwards-Trinity aquifer system of Central Texas provides a quantitative evaluation of the regional ground-water budget. The quantity of water flowing into the Edwards aquifer from the adjacent Trinity aquifer is evaluated, as well as the effects of ground-water pumping on streamflow and springflow.

Question: According to the justifications (page 206), the corn and soybean growing area of the Midwest has the highest annual application of herbicides and fertilizers in the United States. What has been the results of studies on the occurrence, distribution, movement and fate of agricultural chemicals in the regional surface- and ground-water systems in the Midwest?

Answer: USGS studies on the occurrence, distribution, movement, and fate of agricultural chemicals in the regional surface-water and ground-water systems in the Midwest have shown the following:

- ▶ Herbicide concentrations in surface water and rainfall are highly seasonal, with the highest concentrations occurring after spring storms within a 1- to 4-month period following herbicide applications. As a result, the expensive treatment of water supplies

and costly monitoring for these contaminants can be greatly reduced for 8 months of the year.

- ▶ In contrast to the herbicide concentrations in surface water, the sum of herbicides and their metabolites (metabolites are the reaction products of the biodegradation of herbicides) are higher than herbicide concentrations alone, and concentrations remain elevated for much longer periods of time—as much as 5 to 6 months (total time). There is very little information on the toxicities of such mixtures of compounds.
- ▶ Reservoirs can collect and store herbicides that are flushed into streams after spring storms. Herbicide concentrations in reservoirs are spread throughout the year because the peak concentrations from streams in the spring are lowered and the storage of spring storm water increases concentrations throughout the rest of the year. This can potentially affect the use of reservoirs for public drinking-water supplies.
- ▶ Concentrations of atrazine and cyanazine, commonly used herbicides in the Midwest, can exceed health-based limits for drinking water for several weeks in both small streams and large rivers. However, since drinking water regulations pertain to average concentrations, health-based limits are rarely, if ever exceeded in large rivers. Annual average concentrations in small streams and in some reservoirs can exceed health-based limits.
- ▶ The concentrations of sampled herbicides in shallow wells under corn and soybean fields across 12 Midwestern States did not exceed the U.S. Environmental Protection Agency's maximum contaminant levels for the sampled herbicides. The results of this study have calmed fears about shallow ground-water contamination, and will result in substantial savings in monitoring costs for State agencies. Had herbicide concentrations been high, extensive monitoring and a potential ban on many widely used agricultural chemicals would probably have been considered by regulatory agencies.

Question: What is the current level of understanding of long-term impacts of agricultural chemicals on surface- and ground-water systems?

Answer: Our current understanding of the long-term impacts of the use of herbicides in the Midwest on surface water and ground water is as follows:

- ▶ Surface-water impacts from herbicides such as atrazine appear to be confined to 1- to 2-year increments, from the standpoint of human health. Reservoirs store herbicide-laden water from the spring flush, and then release lower concentrations of herbicides to streams over extended periods of time. However, DDT and similar pesticides that have been banned for use are still having negative impacts and will have for some time.
- ▶ Ground-water impacts from herbicides appear to be minimal in terms of human health; however, since ground water moves very slowly, low concentrations of herbicides will be present in ground water for decades. In addition, there are isolated problem areas caused by the inefficient application and disposal of herbicides.
- ▶ Ground water with low concentrations of herbicides that discharges to surface water will maintain low concentrations of herbicides in surface water for a long time. This is because the ground water under farm fields takes years, or even many decades, to reach surface water.
- ▶ The metabolites (the reaction products of the biodegradation of herbicides) of several herbicides may cause a long-term problem in ground water; however, the U.S. Environmental Protection Agency has no regulations on metabolites at this time.

- There is little long-term data on the effects on plants and animals of herbicides in the water resources of the Midwest.

Question: What are the potential economic impacts of remediation of the surface- and ground-water contamination from agricultural chemicals?

Answer: The U.S. Department of Agriculture (USDA) has been studying the economic impacts of banning certain herbicides or classes of herbicides; however, the costs of switching to other chemicals or nonchemical farming would most likely be very high. USGS has been working cooperatively with USDA on alternative farming systems that could reduce the impact of agriculture on water resources. Some of these alternative farming systems may reduce operating costs through reduced chemical usage. The cost of treating some water supplies would be substantial; however, the treatment would most likely be required only during the spring and summer.

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

USGS Efforts in Alaska

Question: Has USGS completed its work in Alaska?

Answer: No. There is much to be done. Alaska covers nearly 378 million acres, 60 percent of which is Federal land. Nevertheless, nearly 80 percent of the primary-scale USGS topographic maps are more than 20 years old. Digital cartographic data and recent aerial photographs and images are scarce. Some areas have never been mapped at the primary scale of 1:63,360. These conditions are partly a result of the National Mapping Program having been driven by user requirements and associated cooperative funding, which traditionally have favored the other 49 States. The fact that the primary Alaska map series is at a different scale than that of other States and the inaccessibility of some portions of Alaska also are contributing factors.

USGS recognizes the need to accelerate the collection and availability of geospatial data including images, revised maps, and digital map data. New technology and currently available data sources help to alleviate some of the difficulties associated with past mapping methods. However, the job still is a major effort. The Departments of Agriculture and Commerce need image and digital data to address forest planning, forest health, ecological, land-cover change, and coastal issues. Interior agencies also need those data to fulfill their fire-hazard, waste-management, water-resource management, and environmental, responsibilities. Also, the Gap Analysis Program needs geospatial data as a base for its geographic information system applications. State agencies need image and digital data for transportation, resource, environmental, agricultural, taxation/assessment, emergency planning, development, and public works issues and for land conveyance under the Alaska Native Claims Settlement Act. USGS is working with Federal and State agencies to address these requirements through a multiagency partnership approach with a variety of products derived from a variety of available sources and tailored to the specific needs of the areas that they portray.

The Alaska National Interest Lands Act of 1980 directs the Secretary of the Interior to assess the mineral potential of all public lands in the State, which is more than 200 million acres. In order to meet this mandate, the USGS has undertaken a systematic investigation of the mineral resource of Alaska. The work is accomplished by studying quadrangles at a scale of 1:250,000. As of FY 1995, of the 152 quadrangles, 43 have been completed and 13 are in progress. Because of funding constraints, an average of one new quadrangle per year has been started over the last few years. In addition, the status of geologic mapping in Alaska is comparable to that of the conterminous U.S. one hundred years ago. Only seven percent of Alaska has been mapped at a scale of 1:63,360, and only 35 percent has been mapped at a scale of 1:250,000 (reconnaissance scale). In contrast, nearly all of the conterminous U.S. has been mapped at a scale of 1:62,500. Alaska has the longest

coastline in the Nation. The continental shelf and beyond have not been adequately mapped.

Very little information is available for Alaska regarding water resources issues. Compared with other parts of the country, hydrologic data on streamflow, ground water availability, and the quality of the State's water are very sparse. Inadequate data hinder the assessment of water resources which is needed by water managers for making resource planning decisions.

Question: How is Alaska unique, in terms of the significance of its geologic resources to the Nation?

Answer: Geologic investigations in Alaska are at the frontier stage compared to the rest of the Nation, but investigations carried out to date have identified significant geologic resources, and suggest that Alaska is the storehouse for most of the Nations undiscovered geologic resources. For example, Alaska contains the world's largest known zinc-lead deposit at Red Dog in the western Brooks Range, and geologic trends suggest that similar deposits could occur farther to the east. The Greens Creek deposit in southeastern Alaska is one of the largest silver-zinc deposits in the world, and the Quartz Hill deposit, also in southeastern Alaska, is a world-class Molybdenum deposit. Alaska's known barite reserves are 50 percent of the total for the rest of the Nation. Alaska has the two largest oil fields in North America, and the State is estimated to contain a larger volume of undiscovered oil and gas resources than any other State in the Nation. Alaska also contains about 50 percent of the United State's total coal resources. Residue from the unfortunate Valdez oil spill allows us to study the long-term fate of hydrocarbons in the environment. The undeveloped geothermal resources of Alaska are among the largest in the Nation. Alaska's complex geologic history and its diversity of active geologic processes has produced a variety of spectacular scenic and recreational resources, including more than 40 active volcanoes, most of the Nations glaciers, and Mt. McKinley, the Nation's highest peak. In recognition of these resources, Congress has designated National Parks, Preserves, and Monuments in Alaska that together make up more than 60 percent of the total lands of the National Park Service. In addition, all of these factors combine to make Alaska a unique laboratory for the study of how geologic processes effect the Earth's surface and its inhabitants. The waters and seabed around Alaska support a vast fisheries resource. The health of the sea floor habitat is important to the sustainability of this resource.

Alaska's subpolar climate provides unique water resources problems not found in other parts of the country. Measuring streamflow beneath ice layers and during thawing conditions presents many difficulties. Processes affecting the movement of ground-water in areas of permafrost and areas of intermittent thawing are not well understood. These problems adversely affect determinations of both the quantity and quality of Alaska's water resources

Question: Are there any alternatives to work being done by USGS? Any other agency of government that could accomplish your mission?

Answer: Yes. There are some functions currently performed by USGS that could be carried out by the private sector. For example, the USGS National Mapping Program has established a goal of contracting one-half of map and data production and has taken actions to reach this objective. This mix of contract and inhouse production ensures that (1) USGS maintains the knowledge required to effectively manage technically complex contracts and (2) it has a core production capacity to respond quickly to national emergencies.

In addition, the USGS National Mapping Program is contracting for the processing of satellite and other remotely sensed imagery, for most software development, and for part of its research activities.

We also believe that the printing and distribution of maps and earth science information can be conducted by the private sector and we are investigating options for contracting those activities.

The proposals that have been offered regarding the abolishment of the USGS will yield little, if any, net budget savings to government because they merely involve relocating, elsewhere in the Federal establishment, the functions currently performed by USGS. Indeed, these proposals, if implemented, would likely require other Federal, State, and local agencies to procure basic data and scientific/technical expertise currently available from USGS, at considerably higher cost, from private sector firms. If the concept of Federal-State partnerships were to be abandoned, the multipurpose nature of USGS earth science information, made possible because of its current universal availability, would be lost. Such information would be regarded instead as a private good with access controlled by the private sector provider. The elimination of USGS Federal-State Cooperative Programs would shift to State and local governments the entire burden of gathering basic natural resource information needed by them to respond to Federally imposed environmental mandates. This would be an outcome contrary to the spirit of other significant commitments contained in the "Contract with America."

Finally, there are quite compelling reasons to keep the USGS expertise together. The USGS uses the four themes of hazards, information, resources, and environment to characterize USGS activities. This theme approach emphasizes the complementary nature of the functions within our three program divisions.

Take our work in just one of our four theme areas, natural hazards, as an example. All of the different organizational units within the USGS contribute important elements to the Nation's response to potential natural disasters, disasters that have cost the Nation approximately \$50 billion per year for the past few years.

Without the longstanding gaging station network and well-developed communications systems we had in place during the 1993 Mississippi River floods, accurate forecasts could not have been made and loss of life and damage to property would have been far greater than it actually was. The USGS met the unprecedented demand for water information because we could mobilize a work force from offices throughout the country trained in standard measurement techniques and thoroughly familiar with the field equipment in the flooded areas. Neither individual States nor the private sector has the capacity to provide the regional and national perspective needed to respond to such multistate hazards.

It should be emphasized that the USGS tapped the talents of more than just our water resources experts. In response to the flooding of 1993, the White House established the Scientific Assessment and Strategy Team (SAST). The main objective of this team was to provide scientific advice and assistance to officials responsible for making flood recovery decisions. USGS cartographers led the efforts to build a data base that contains information on topography, transportation networks, hydrography, land use, levees, historic channelways, precipitation, soil types, crop and disaster payments, and biological habitat. USGS geologists, hydrologists, and cartographers worked together to analyze relationships between levee breaks and terrain, effectiveness of various land treatments for flood-stage reduction in different regions, and the impact of levees on flooding. No other organization has this ability to call on such a diverse range of scientific talent to help solve national problems on the regional scale.

To paraphrase Secretary Babbitt's remarks on February 6, 1995, at the press briefing on the Department of the Interior's FY 1996 budget, eliminating a science agency, such as the USGS, is like tossing out a smoke detector in order to save the cost of the batteries: the earthquakes, volcanoes, floods, fires, and landslides don't stop, but our ability as a Nation to anticipate their occurrence and deal swiftly and effectively with them will be seriously eroded. The scientific expertise and technical infrastructure of the USGS are a national investment built over many decades. To discover one day in the wreckage of the next

natural disaster that it was a mistake to throw away our earth science investment will be too late for those who lost lives and property.

Question: In your opinion, is USGS cost effective from the taxpayers perspective?

Answer: Yes, however, it is extremely difficult to estimate the economic impact of scientific information provided by USGS. Certainly there is immediate value where information on earthquakes, volcanoes, floods, and other hazards are concerned. The U.S. Geological Survey recently performed a rigorous economic analysis on the cost benefit of one of its product types, geologic maps. This pilot study demonstrated that use of improved geologic map information could save \$1.5 million for siting a landfill and could save between \$1 million and \$3 million for siting a major road.

But this is just one example of one type of USGS product, and the pilot only valued the product's use for two very specific applications. USGS information products have with many applications for a wide variety of different users. The USGS standard topographic quadrangle, at a scale of 1:24,000, is the reference map series for the entire country with more than 50,000 separate titles. The digital components of these maps as well as other digital map products and standards are vital for all geographic information system (GIS) applications. The Bureau of the Census depends on USGS information to complete an accurate census of the United States. The USGS manages more than 10,000 stream gaging stations across our Nation that supply critical information for flood warnings and water resource management. The USGS National Water Quality Assessment Program supplies information needed to safeguard our water supply. USGS risk assessments are crucial for evaluating geologic hazards such as earthquakes and landslides and for emergency response planning and designing mitigation measures. USGS mineral and energy resource assessments provide key availability and quality information for land-use management and natural resource policy.

All of these products and services contribute to our Nation's economic health and public safety. The value of the U.S. Geological Survey information is large, proportionately larger than the current appropriations for the Bureau, but an exact calculation is virtually impossible. For example, by having an experienced staff and strong-working relations with other Federal agencies and international groups, the USGS directly contributed to saving thousands of U.S. lives and millions of U.S. dollars by accurately forecasting the 1991 eruption of Mount Pinatubo near Clark Air Base in the Philippines. Evacuation of those facilities resulted from warnings provided by USGS scientists. The value of USGS information is felt both in the short term (from hazard monitoring and real-time assessments) and in the long-term (from reduced costs for remediation, basic data for land and resource decisions, and increased economic competitiveness). The USGS provides far greater benefits to our society than the cost of its annual budget.

Question: Do you have any recommendations concerning organizational changes or restructuring that might improve the Survey's performance?

Answer: Yes. Major reorganizations are planned for the National Mapping Division and the Geologic Division. These reorganizations will streamline program operations by significantly reducing the number of headquarters personnel and the number of supervisors. USGS is also participating in another round of buyouts. Employees have been given the opportunity to apply for delayed separation buyouts. All applications must be received by March 31, 1995, but actual separation dates will vary, with several being effective by September 30, 1995, and others in 1996, and some as late as January 1997. The number of personnel involved in this buyout opportunity is not yet known. Also, a strategic planning effort is underway, and program reviews will be conducted as a part of this activity. It is anticipated that some programs will be refocused and redirected during this planning process. The results of this activity are not expected for several months.

QUESTIONS SUBMITTED BY SENATOR PETE DOMENICI

Funding for National Geological Mapping Act Activities

In the President's FY 1996 budget request, the U.S. Geological Survey (USGS) has apparently placed a higher priority than in previous years on funding of the STATEMAP functions established under the National Geological Mapping Act (NGMA). I am aware of some of the accomplishments that have resulted from NGMA programs, such as the ongoing geologic mapping in and around the Albuquerque Basin.

Question: Would you explain the various functions of the NGMA programs (e.g., STATEMAP, FEDMAP, etc.), and how they are related?

Answer: The NCGM program consists of four components. The FEDMAP component conducts framework geologic studies of areas primarily identified by other Federal Agencies, other USGS programs, State Geological Surveys, and local governmental agencies. Geologic mapping conducted under the FEDMAP component is accomplished by USGS employees. The STATEMAP component determines the geologic framework of areas identified by State geological agencies. The priorities in this part of the program are established by geologic mapping advisory panels in each State. Proposals are prepared by each State in response to an RFP prepared by the USGS for evaluation and funding. The panel evaluating these proposals is convened by the USGS and consists of five State geologists and two USGS geologists. State Geological Surveys are responsible for staffing and completing projects in this component of the program. STATEMAP is implemented through cooperative agreements in which the available Federal funds are matched with non-Federal funds from the States. The SUPPORTMAP component provides funding for scientists who provide analytical support for geologists mapping in the field. This support component includes paleontology, geochronology, geochemistry, and geophysics. This data provides information on the age, composition, and 3-D structure of the rock materials being mapped. The SUPPORTMAP component of the program which is staffed by USGS scientists is also responsible for the development, implementation and maintenance of the National Geologic Map Data Base as well as supporting studies that lead to the implementation of cost-effective digital methods for the acquisition, compilation, analysis, cartographic production, and dissemination of geologic-map information. The fourth component of the program is EDMAP. EDMAP provides funding through cooperative agreements with academic institutions for training future geologic mappers. EDMAP is operated much like STATEMAP in that the USGS issues an RFP with geologic mapping priorities, both State and Federal, outlined. A peer review panel convened by the USGS but consisting of representatives from academia, States, and Federal agencies evaluates the proposals and makes recommendations for funding to the USGS.

Question: How has the USGS tried to concentrate its mapping activities in areas that will return the greatest benefit to the general public?

Answer: The National Cooperative Geologic Mapping Program develops its national work plan for future fiscal years in cooperation with geologic mapping partners and users of geologic maps. Those involved in defining the national work plan include other Federal agencies, (National Park Service, U.S. Forest Service, Environmental Protection Agency, the Department of Energy, and the Bureau of Land Management), other USGS programs (Geologic Hazards Surveys, National Water Quality Assessment Program, Water Federal/State Coop Program, and the Marine and Coastal Geologic Surveys), the State Geological Surveys, and representatives from the private sector and academia.

Question: What is the reasoning of the USGS for the apparent shift in priorities toward the STATEMAP program?

Answer: Increased cooperation between the USGS and the State Geological Surveys is important for the future of geologic mapping for the Nation. The change in the balance of

funding among program components creates a true partnership between the USGS, the State Geological Surveys, and academia to produce the improved geologic-map information needed to help guide wise socioeconomic decisions.

Question: What will the effect be on the Federal programs under the NGMA?

Answer: The effect will be fewer geologic mapping projects addressing Federal priorities and more geologic mapping projects addressing States priorities but with a better overall balance across the Nation.

New Mexico Water Study

Question. I would like to give you a copy of this work plan and ask you to report back to the committee whether there are significant aspects of this fact-finding and analysis which the USGS would be well-equipped to perform from a technical and scientific standpoint. The USGS has a new three-dimensional ground-water model that provides a framework for quantifying and managing the resource, but it will remain an uncertain tool for prediction until the nature of the volume, location, water quality, and interconnection between the ground-water elements and the Rio Grande are better known. Do you think the Rio Grande is a critical basin that could provide significant challenge to help the USGS prove-up its ground-water 3-D computer model?

Answer. USGS supports the aims and intents of the work plan prepared by the Technical Advisory Committee (TAC) to devise a technically sound program for collecting, compiling, and analyzing geologic and hydrologic information in the Middle Rio Grande Basin. Our long-term geologic and hydrologic studies in the basin, as well as our extensive data-collection networks and databases, position us well to undertake a variety of scientific studies in support of the TAC proposal. We view the plan developed by the TAC as an initial step in planning the specific nature of the work required.

Investigations of the Albuquerque basin must be carefully designed to optimize available resources in addressing critical information needed to assess water-management alternatives. In this respect, there may be ways to achieve the TAC objectives with a more limited expenditure of funds. For example, coupling of established and cost-effective techniques in ground-water exploration, surface geophysics, and hydrogeologic characterization could significantly reduce the needs for costly exploratory drilling and seismology proposed by the TAC plan. USGS will work with all agencies involved to develop a cost-effective program to address the hydrologic and geologic needs for the Middle Rio Grande Basin.

The President's FY 1996 budget request for USGS provides funding for several activities in support of the TAC. Specifically, our continuing or new activities in the basin in FY 1996 are expected to include the following:

- ▶ The cooperative program between USGS and the city of Albuquerque will include updating of the ground-water model with recent geologic and hydrologic information, studies directed at potential land subsidence in the Albuquerque area, and collection of more accurate data on the hydraulic properties of the aquifer.
- ▶ We have identified the Middle Rio Grande Basin as a critical aquifer in the USGS Hydrogeology of Critical Aquifers program. The Critical Aquifers program will focus on interactions of the Rio Grande with the ground-water system of the Albuquerque area.
- ▶ We are undertaking increased geologic mapping and geophysical studies of the Albuquerque area in cooperation with the New Mexico Bureau of Mines and Mineral Resources, University of New Mexico, New Mexico Tech, and Los Alamos National Laboratory.

- As part of our cooperative program with the New Mexico State Engineer's Office and other agencies, we plan to discuss the establishment of a regional database of hydrologic and geologic information that would be accessible to all interested parties.

We look forward to continued participation with the other agencies represented on the TAC in developing sound programs to assist future management of the water resources of the Middle Rio Grande Basin. USGS is committed to expanding its programmatic emphasis on this critical basin, as financial resources permit.

Water Resources Research Institutes

Dr. Eaton, one of the participants in the preliminary work to study the water resources of New Mexico's largest city--Albuquerque--was the New Mexico Water Resources Research Institute headquartered at New Mexico State University. I have been familiar with the work of the Institute for years, and its scientists have made significant contributions to the State and to the Nation. The Administration proposes to phase out the State Water Resources Research Institutes, and essentially redirect its funding to the federal program. In other words, support USGS has been providing through a longstanding partnership with the State Research Institutes is proposed to be terminated, and the work shifted in-house to USGS.

Question: How does this proposed shift of research in-house fit in with the Administration's initiatives to foster partnerships in research?

Answer: Although the Institutes Program was very successful in coordinating academic research among universities, it was not successful in fostering partnerships with USGS. The program was established as a Federal grants program. Appropriated funds were transferred directly from USGS to the Institutes with no requirement or incentive for coordination. In fact, USGS scientists were prohibited from participating in projects funded by the grant program.

By comparison, USGS has been very successful in fostering partnerships through its Federal-State Cooperative Program. Through this program, USGS works with 1,100 State and local agencies to address regional and national water resources issues. Using funds from this and other programs, USGS has worked with university faculty and students on a number of projects which foster coordination between USGS and the academic community. In 1994, USGS provided \$10 million to universities for services in support of USGS programs; these services included support from 50 professors and 700 students. In combination, these programs provide a strong link between USGS and other members of the water resources community nationwide.

Question: New Mexico's Water Resources Research Institute will receive approximately \$80,000 in FY 1995, but these funds will leverage contributions from the State Legislature by as much as five times this amount because of the critical work being performed. What is a realistic estimate of the lost resources to this important research that is likely to occur if the Administration's proposal is enacted?

Answer: In FY 1995 the New Mexico Institute will receive \$78,545 under the provisions of section 104 of the Water Resources Research Act. In addition, the Institute matched the Federal grant with a total of \$169,879 (\$81,927 in indirect costs and \$87,952 in direct costs). USGS has no way of knowing what other sources of funds are currently available or what new sources might become available in the absence of the Federal program.

Question: One of the benefits of the current partnership with the State Institutes is that these programs train new researchers in earth sciences. Does USGS have the capability to make up for this aspect of the proposed elimination of State Institutes?

Answer: The Administration is proposing to eliminate the Federal funding for the Institutes, not the Institutes themselves. Currently, Federal funding amounts to less than

10 percent of total funding for Institutes. The Institutes Program provides a valuable education service to their States. If some of the Institutes do not survive the loss of Federal funding, USGS could not fully fill the education gap. However, USGS is involved in providing training and work experience to earth science students across the country. A longstanding cooperative education program and a new student internship program enable students to fulfill their university educational requirements while working side by side with USGS scientists and technicians on projects dealing with a wide range of water-resources issues. In 1994 more than 700 college students worked on USGS projects and were supported financially with project funds; we expect this number to increase significantly. This combination of classroom work, coupled with mentored on-the-job training is excellent preparation of new researchers in the earth sciences.

Question: How would you assess the research productivity of the State Institutes with that of USGS overall? Has such an assessment been undertaken as the Administration has considered this budget proposal?

Answer: No attempt has been made to compare the research productivity of the State Water Resources Research Institutes with that of USGS overall. Such a comparison would be difficult because of differences in the scope and objectives of the programs. The research conducted by the Institutes consists mostly of relatively small projects directed at State and local problems and has an appropriate and important emphasis on graduate student training. The USGS inhouse research program is, to a large extent, conducted in support of large-scale, long-term, nationwide water resource programs, such as the National Water-Quality Assessment Program, the Toxic Substances Hydrology Program, and the Global Change Hydrology Program. The research conducted within USGS is highly focused on improving the USGS capability to conduct its core mission of resource appraisal and collection and analysis of water data. Researchers in USGS are very active in providing classroom and one-to-one training for USGS hydrologists, providing computer models and new field sampling methods. The direct linkage to the USGS mission is the major difference between Institute research and USGS internal research.

QUESTIONS SUBMITTED BY SENATOR CONRAD BURNS

Water Resources Research Institutes

Question: The FY 1995 Interior Appropriations conference agreement directed the Department to identify specific options for integrating the expertise of the Water Resources Research Institutes (WRI) into the full range of the Department's water resources program. Why hasn't this report been submitted to the Committee? Shouldn't the Committee have the benefit of this report before deciding whether or not to eliminate funding for this program?

Answer: Because the President's FY 1996 budget requests no funding for this program, we did not submit with the budget the requested report describing proposed options to integrate the Institutes into the water resources programs of the Department and other Federal agencies, and to introduce competition into the distribution of Federal funds among the Institutes.

Question: What examples can you cite where the WRI program was relied upon to aid National Water-Quality Assessment (NAWQA) studies?

Answer: Most NAWQA study units have as part of their liaison committees the Director of the State Water Resources Research Institute. At the national scale, the Universities Council on Water Resources has a representative on the NAWQA National Advisory Council. These committees have been relied upon to provide direction to NAWQA on numerous issues at regular intervals throughout the life of the Program. Examples of issues include the choice of topics selected for national attention and formation of topical synthesis efforts within NAWQA, advice on long-term sampling for trend analysis, and prioritization of

study units for inclusion in the second round of intensive sampling. WRRl members of these committees are also relied upon as communications links with Universities, suggesting new contacts between NAWQA scientists and University researchers, and making University studies aware of the availability of NAWQA results as a broader context with which their more site-specific research can be placed.

Question: Has there been an evaluation and assessment of the USGS cooperative program with States?

Answer: All individual investigations and the hydrologic data-collection activities in each of the 48 USGS District offices are reviewed and evaluated internally on at least a quarterly basis. Through project reviews with supervisory staff, technical reviews with peer scientists, and annual program reviews with management personnel, the Cooperative Program is evaluated at all levels of the organization. But perhaps the best assessment of the program is found in the fact that, despite constrained State and local budgets, 1,100 agencies in 1994 voluntarily contributed \$63 million in matched funds and \$25 million in unmatched funds to the Cooperative Program for work they consider vitally important to their water management activities.

Question: What portion of the activities funded by the Federal-State Cooperative Program represent things the USGS is uniquely qualified to do? Is there capacity in the private sector to do any of this work?

Answer: For more than 100 years, the Cooperative Program has contributed significantly to an essential function of the Federal government--the assessment of our Nation's waters. In carrying out this responsibility, USGS has been successful in contracting with the private sector and with universities for several important activities such as the drilling of observation wells, report production, laboratory analyses, and research in areas outside of our mission. And, in light of staff reductions, we will continue to look for other opportunities in this regard. But in so doing we must preserve the unique strengths of the Cooperative Program and the quality of the information it provides. Some explanation of these points is needed.

Work in the Cooperative Program is directed toward ongoing and emerging long-term problems, such as water supply, waste disposal, ground-water quality, effects of agricultural chemicals, floods, droughts, and environmental protection. Standardized methods are used so that study results are transferable to similar problems in other areas and contribute to issues that have interstate, regional, or international significance. Data collected by USGS and the results of its studies are accepted by parties on both sides of disputes and furnish the basis required for interstate and international compacts, Federal law and court decrees, congressionally mandated studies, regional and national water-resources assessments, and planning activities. Having USGS do the work results in consistent techniques of data collection and archiving, with the information stored in a common data base readily available to all. The knowledge gained in the studies is published and added to the growing body of information about the hydrology of the region or area.

The program has been successful in developing Federal-State partnerships in dealing with water resources issues. About 1,100 cooperators participate in the program. These cooperators include State, county, and municipal agencies, as well as interstate compact organizations, conservation districts, water-supply districts, sanitary districts, drainage districts, flood-control districts, and similar organizations. State and local governments provide at least half (and often more) of the funds to USGS to do work which is important to them but which also addresses regional and national water resources issues.

Because rivers and aquifers cross jurisdictional lines, studies and data collected in one county or one State have great value in adjacent counties or States. It is therefore effective to have one organization involved in these studies so that the information can be shared and is comparable from one jurisdiction to the next. USGS is uniquely suited to this task.

For example, USGS can respond to major floods with crews from all over the Nation who bring to bear common knowledge of streamgaging technology and procedures. This versatile response capability would not be possible if State agencies had to act alone in flood emergencies. All data and results of analytical studies are made available to cooperating agencies and to the public through published reports, and through computerized data bases. Hydrologic data can be accessed through USGS offices in every State and will soon be available over the Internet. The benefits of the program are demonstrated by the extent to which other agencies apply the information produced. For example, the National Weather Service uses streamflow and water-level information from some 3,000 USGS-operated gaging stations for their flood-forecasting systems.

If the work just described were done in the private sector, it would be done with varying techniques and standards, the products might not be available outside the funding organization, the results might not be widely accepted as credible, and the cost of the work would undoubtedly increase, and most importantly, the successful partnership between the Federal government and the States to jointly address water resources issues would be broken.

Question: What portion of the work funded under this program could the private sector do, irrespective of the cost? Does this represent a federal subsidy to your partners in the Federal-State Cooperative Program?

Answer: As mentioned in the previous answer, much of the work in the Cooperative Program might be undertaken by one or more private sector entities, especially if cost were no object. However, advantages from the present Cooperative Program arrangement accrue to both Federal and State sides. Most evident is the cost-sharing that approximately doubles the activity that might be afforded by each. Additionally, the combining of resources in the relatively small field of hydrology provides advantages of scale for supportive activities such as laboratories and research, and for mobility to meet new needs where and as they develop. Cost-sharing and decentralization increase the responsiveness of the program to grass-roots, real-world needs and provide early indication of emerging local problems that often become national problems. Participation in the program is by request of the cooperating agencies, and the Federal share is typically oversubscribed by State and local sponsors, which annually offer up to 40 percent more funding than can be matched by the USGS appropriation. Total funding in FY 1995 is \$62 million USGS, \$62 million State match, and about \$29 million State unmatched. Thus, through the pooling of support, USGS is able to conduct studies that lead to an improved understanding of the Nation's water resources to the mutual benefit of all levels of government--at substantial financial savings. The information produced in the program provides benefits to many entities beyond the cooperators who funded the study. Thus, it is appropriate that the cost be shared.

Question: Can you provide evidence of cost savings or other practical results of activities under the Water Resources Division's National Research Program?

Answer: We can provide numerous examples of research from the National Research Program (NRP) which have had practical results, including cost savings. A few of these were included in the USGS budget justification document submitted to Congress earlier this year. For example, we indicated that analyses of prehistoric and contemporary flood data in the Rocky Mountains show that floods are substantially less than those computed using existing engineering methods and will result in millions of dollars in savings throughout the Rocky Mountain States; USGS studies of tides and river flow into San Francisco Bay are being used by State and Federal agencies to evaluate alternatives for operating water projects in California; information from USGS research and results from USGS geochemical models enabled Utah to resume using a \$53 million pumping plant that had to be shut down when a mineral from the Great Salt Lake had clogged pump intakes; USGS ground water and geochemical models are used throughout the world to predict the direction and rate of ground water flow as well as the transport and reaction of contaminants in ground water.

This information is used to design ground water development projects and to plan for cleanup and protection of aquifers.

It should be recognized that, because the NRP is a long-term research program, "payoffs" and their timing are often unpredictable. The following two research efforts provide examples of long-term research that have recently begun to "pay off."

- ▶ USGS has supported research focused on studies related to the origin and fate of natural organic compounds in water for more than 15 years; today USGS scientists rank among the world's leaders in such studies. When the USGS studies began, many scientists were concentrating on studying manmade organic contaminants, and there was relatively little interest outside of USGS in the study of natural organic compounds in aquatic systems. With the growing realization that many pollutants--including pesticides, trace metals, and radionuclides--are mobilized and transported in association with naturally occurring organic matter, awareness of the critical importance of natural organic compounds grew. Today, water managers and the water treatment industry are becoming increasingly aware that they need to know the amount and reactivity of organic material. Although not a direct concern in drinking water, organic carbon contributes to color, impacts the performance of water treatment processes (such as coagulation, adsorption and membrane techniques) that are designed to remove organic matter from the water supply and has an effect on the performance of sorbents such as granular activated carbon used to remove manmade organic compounds (for example, pesticides). Further, fears have been raised about potentially harmful by-products that are formed when disinfectants such as chlorine are used to treat waters that contain natural organic compounds, and new proposed water treatment regulations are now likely. Water managers are coming to realize that, by understanding the factors that control the amount and reactivity of organic matter in a particular water supply, alternative solutions to the problems posed by its presence may be identified. Further study is needed to determine effective approaches for managing particular watersheds. For example, draining wetlands may result in the mobilization of dissolved organic carbon originally stored in the soil while treatment of soils with adsorption enhancing materials such as gypsum or lime may reduce the export of organic matter from a watershed; one management technique may involve making the judicious choice of water supply (for example, stream, river, or reservoir water) based on seasonal or hydrologic variation in the dissolved organic carbon content. NRP research has been central to these developments. This is illustrated by the recent lead article in the American Water Works Association journal (January 1995) by several NRP scientists entitled, "Soil and hydrology: their effect on natural organic matter."
- ▶ Although there has been no eruption for about 500 years, Mammoth Mountain, in eastern California, lies in a region characterized by volcanic activity. In 1989, seismic evidence pointed to movement of fresh magma up into Mammoth Mountain; no eruption occurred, but unusual incidents began soon after. A National Forest ranger almost passed out inside a cabin on the flanks of the mountain and trees began dying in several areas on the perimeter of the mountain. The areas of tree kill have now grown to about 75 acres, and reports of dizziness while in confined spaces have come from personnel of a large ski resort which leases the northern slopes of the mountain from the Forest Service. USGS identified the cause of these incidents in 1994 when scientists, using knowledge gained in years of research on gas emissions, demonstrated that diffuse seepage of odorless carbon dioxide up through the soil zone was suffocating the tree roots and producing lethal concentrations in poorly ventilated structures. Specialized analytical techniques were used by USGS personnel to show that the area affected by gas flow through the soil is much larger than the present-day area of tree kill and that conditions hazardous to trees and humans may develop in areas now considered safe. Based on USGS findings, the Forest Service has decided to close a campground near one of the tree kills and ski area personnel have been alerted to the danger of entering confined areas without adequate ventilation. Questions still to be addressed are:

- Which, if any, areas pose possible gas poisoning risk to the public?
- Is dissolved gas reaching problem levels in any of the lakes near the mountains? (More than 1,500 people were killed in the 1980's in the Cameroons when high concentrations of dissolved carbon dioxide that had accumulated in the bottom of two lakes was suddenly released into the atmosphere--another study involving USGS scientists.)
- Does the high flow rate signify dangerous gas pressure buildup within the mountain?
- What should be the response to a sudden increase or decrease in the flow rate?

Question: Does this program leverage any non-federal or other federal support? Would it not be more cost effective and of equal quality to conduct this research through the Water Research Institutes program where the government could realize at least two-to-one non-federal match for its investment?

Answer: About 12 percent of the National Research Program's budget for FY 1995 comes from sources outside USGS; most of this "outside" money is from other Federal agencies, but more than 20 percent is from local and State governments and from the private sector. It should be noted that although the appropriated USGS money is not "leveraged" in the sense of requiring two-for-one funds, many NRP scientists work collaboratively with university and other scientists. Although money usually is not transferred in such cases, research is conducted cooperatively and publications are produced jointly.

Although the quality of research in universities is generally excellent, universities generally do not conduct interdisciplinary research over the long time-frame needed for hydrologic predictions, nor do they have the national perspective and coordination that are needed to conduct nationwide studies and address water-resource problems that are national (or even international) in scope. Further, as a small but integral part of USGS, research scientists provide information and insight needed to help others in USGS solve short-term problems. In addition, many successful and highly productive current and past USGS programs originated in the NRP, including Toxic Substances Hydrology, Regional Aquifer-System Analyses, Nuclear Waste Hydrology, Global Change Hydrology, and the National Water-Quality Assessment Program; these programs are extremely relevant to the successful management of water resources and to the solution of serious national problems. It is vital that the NRP remain focused on the basic assessment mission of USGS and not be viewed as a contract laboratory available for hire to any agency. Other agency funds are accepted when they are compatible with USGS mission needs.

Question: The Water Resources Research Act authorized several programs which would provide research and technology transfer capabilities to the States through their universities. What attention has the USGS paid to reauthorization of this program as a means of partnering with States and empowering them to do some of their own research? Since these programs have usually required a non-federal match, are they a more efficient use of federal funds than most other programs in the USGS?

Answer: The Department of the Interior has not yet taken a position on reauthorization of the Water Resources Research Act. The programs authorized by the Water Resources Research Act, with their non-Federal matching requirement, are an efficient means of stimulating and supporting water resources research, education, and information and technology transfer directed towards State and local water management problems. It is difficult to compare the Water Resources Research Act programs with other USGS water resource programs, which are not limited to research and which require a large-scale, long-term, nationally consistent approach.

QUESTIONS SUBMITTED BY SENATOR ROBERT F. BENNETT

Water Resources Research Institutes

Question: The FY 1995 Interior Conference Report (H.Rept. 103-740) directed the Department to "consult and coordinate with the heads of appropriate departments and agencies with water research requirements to ensure the utilization of the water resources research expertise and capabilities of the institutes to the extent feasible." Why has the Department failed to submit this report?

Answer: Because the President's FY 1996 budget requests no funding for this program, we did not submit with the budget the requested report describing proposed options to integrate the Institutes into the water resources programs of the Department and other Federal agencies, and to introduce competition into the distribution of Federal funds among the Institutes.

Question: Would USGS be willing to provide the Subcommittee with a plan which identifies specific options for integrating the expertise available through Water Resources Research Institutes into the full range of USGS's water resources programs?

Answer: If the Subcommittee provided funding in FY 1996, USGS would work with the Institutes to provide such a plan in FY 1996.

Question: What is USGS doing to promote public awareness and understanding of water resources issues?

Answer: USGS is using a variety of products and a multifaceted delivery system to promote awareness and understanding of water issues to a diverse audience. USGS customers have a wide range of water information needs, represented by products from a basic brochure on the hydrologic cycle for students, to average daily stream flow data used by scientists performing trend analyses.

As a science organization, USGS uses the best available technology to disseminate information, and is rapidly putting information out on the Internet. On-line customers can obtain a graph of streamflow conditions in real time, servicing equally the needs of water treatment plant operators, as well as recreational boaters, with data for improved planning. Water information retrievals over the Internet have been growing at a rate of almost 70 percent per month. In March 1995, users at 8,100 sites received 65,000 "pages" of information on streamflow, water use, and water quality. An application in Montana serving real-time streamflow data is proving extremely popular and will be extended to other States. Information needs can also be met by using one of our "800" numbers to order products, or our Fax on Demand system to request documents.

The most popular USGS products used to convey understandable water information to teachers and children are colorful water resources educational posters (available on six topics from water use to water quality), produced with contributions from several other Federal agencies including the Department of the Interior, Environmental Protection Agency, and Corps of Engineers. More than 2 million posters have been distributed since 1991 through partnerships with the National Science Teachers Association and the American Water Resources Association. USGS assisted the Groundwater Foundation with a booklet used by 37 States to organize children's ground-water festivals. In Washington, D.C., USGS has provided science information for the *Washington Post* Mini-Page.

To reach a broad general audience across the country, USGS has produced a series of Fact Sheets for every State, which are being widely distributed through our more than 1,000 State and local cooperators and many libraries nationwide. Special topic Fact Sheets are also available on important regional water resource issues, including Chesapeake Bay and

San Francisco Bay, as well as environmental and water quality issues such as bioremediation.

To improve access, USGS is cooperating with the National Technical Information Service's "Fed World" for disseminating Federal information, the General Service Administration's "Federal Information Center" 800 numbers for responding to inquiries, and the more than 400 USGS partnerships with universities and other government, private, and public organizations for disseminating water data. To reach a broader public, USGS has developed partnerships with other organizations whose mission is community education, including the National Geographic Society on Fresh Water, The Conservation Fund on Non-Point Source Pollution, the League of Women Voters on Ground Water Protection, and the Chesapeake Bay Alliance on water quality.

The Intergovernmental Task Force on Monitoring Water Quality, a joint effort between USGS and the Environmental Protection Agency, works cooperatively with other Federal and State agencies, as well as private sector members across the country, in developing national standards and plans for water data collection and monitoring activities.

Question: Could the research typically performed by employees of the Water Resources Division be accomplished just as well by university-based researchers?

Answer: No. The academic research performed at universities is primarily oriented toward the understanding of specific processes. It generally has a short time horizon and is primarily based in the laboratory and is theoretical or computational. In contrast, USGS water research is very long term and involves extensive field data collection and observation as well as laboratory, theoretical, or computational aspects. Research done within USGS supports its mission of assessing the Nation's water resources. Research is directed toward developing new tools and methods for addressing regional and national issues over longer periods of time. There is a direct interaction through the USGS training program between the researchers and the larger group of USGS scientists who conduct resource assessments. This provides for constant feedback between USGS research and assessments.

Question: What is the USGS doing to promote the training of water managers and technicians nationally?

Answer: USGS is active in providing training and work experience to college students through several temporary employment opportunities. A longstanding cooperative education program and a new student internship program enable students to fulfill their university educational requirements while working side by side with USGS scientists and technicians on projects dealing with a wide range of water-resources issues. In 1994, more than 700 college students worked on USGS projects and were supported financially with project funds; we expect this number to increase significantly. This combination of classroom work, coupled with mentored on-the-job training is excellent preparation for water managers and technicians alike.

Question: Why are the programs of water resources research that are conducted internally by the Geological Survey not subjected to the same kind of external peer review that the Water Resources Research Institutes Program was subjected to?

Answer: USGS research is subjected to the same kind of peer review as that of the Institutes. There are many mechanisms in operation for the purpose of evaluating the Bureau's water science program and the direction and quality of this program. These mechanisms impact decisions regarding the internal allocation of funds. Internal and external review of research activities conducted through the USGS Water Resources Investigations program include the following:

- ▶ National Research Program review of ongoing and proposed research projects on an annual basis by research advisors in each of the following major fields of water and water related science: ground water chemistry, surface water chemistry, ground water hydrology, surface water hydrology, geomorphology and sediment transport, and ecology.
- ▶ Review of research activities conducted in each of the Division's 48 District Offices are reviewed for progress and direction annually as part of the program review process and intermittently as part of more intense "discipline" reviews conducted of District programs by the Offices of Surface Water, Ground Water, and Water Quality.
- ▶ Research Grade Evaluation review of the progress of researchers and their research endeavors. These reviews include internal and external panels who make in-depth appraisals of the quality and impact of each scientist's work.
- ▶ External review by the Committee on USGS Water Resources Research of the Water Science and Technology Board, National Research Council.
- ▶ Review of the progress and relevance of Division science programs through external advisory groups such as National Water-Quality Assessment Study Unit and National Advisory Boards, and various advisory committees established under Office of Management and Budget Memorandum 92-01.
- ▶ The annual resource allocation process, which weeds out less productive and less relevant scientific endeavors.

Question: The Water Resources Division of the Geological Survey conducts a large Cooperative Research program. Much of the work undertaken within this program could be conducted by private firms. Why should the Federal government be conducting work that could otherwise be done by the private sector?

Answer: For more than 100 years, the Cooperative Program has contributed significantly to an essential function of the Federal government--the assessment of our Nation's waters. In carrying out this responsibility, USGS has been successful in contracting with the private sector and with universities for several important activities such as the drilling of observation wells, report production, laboratory analyses, and research in areas outside of our mission. And, in light of staff reductions, we will continue to look for other opportunities in this regard. But in so doing we must preserve the unique strengths of the Cooperative Program and the quality of the information it provides. Some explanation of these points is needed.

Work in the Cooperative Program is directed toward ongoing and emerging long-term problems, such as water supply, waste disposal, ground-water quality, effects of agricultural chemicals, floods, droughts, and environmental protection. Standardized methods are used so that study results are transferable to similar problems in other areas and contribute to issues that have interstate, regional, or international significance. Data collected by USGS and the results of its studies are accepted by parties on both sides of disputes and furnish the basis required for interstate and international compacts, Federal law and court decrees, congressionally mandated studies, regional and national water-resources assessments, and planning activities. Having USGS do the work results in consistent techniques of data collection and archiving, with the information stored in a common data base readily available to all. The knowledge gained in the studies is published and added to the growing body of information about the hydrology of the region or area.

The program has been successful in developing Federal-State partnerships in dealing with water resources issues. About 1,100 cooperators participate in the program. These cooperators include State, county, and municipal agencies, as well as interstate compact organizations, conservation districts, water-supply districts, sanitary districts, drainage

districts, flood-control districts, and similar organizations. State and local governments provide at least half (and often more) of the funds to USGS to do work which is important to them but which also addresses regional and national water resources issues.

Because rivers and aquifers cross jurisdictional lines, studies and data collected in one county or one State have great value in adjacent counties or States. It is therefore effective to have one organization involved in these studies so that the information can be shared and is comparable from one jurisdiction to the next. USGS is uniquely suited to this task. For example, USGS can respond to major floods with crews from all over the Nation who bring to bear common knowledge of streamgaging technology and procedures. This versatile response capability would not be possible if State agencies had to act alone in flood emergencies. All data and results of analytical studies are made available to cooperating agencies and to the public through published reports, and through computerized data bases. Hydrologic data can be accessed through USGS offices in every State and will soon be available over the Internet. The benefits of the program are demonstrated by the extent to which other agencies apply the information produced. For example, the National Weather Service uses streamflow and water-level information from some 3,000 USGS-operated gaging stations for their flood-forecasting systems.

And so if the work just described were done in the private sector, it would be done with varying techniques and standards, the products might not be available outside the funding organization, the results may not be widely accepted as credible, the cost of the work would undoubtedly increase, and most important, the successful partnership between the Federal government and the States to jointly address water resources issues would be broken.

In 1989, a committee of water resources professionals investigated the feasibility of privatizing hydrologic data collection, including the USGS streamgaging program. Committee members represented State water managers, American Society of Civil Engineers, three Federal agencies, and the academic community. After surveying a wide cross-section of the user community and potential private contractors, the Committee concluded that:

- ▶ Federal hydrologic data collection is widely believed to be an appropriate Federal function.
- ▶ Privatization of data collection would be disruptive and might render a valuable engineering resource worthless.

Also, available information indicates that contracting out data collection activities would not be cost effective. One such attempt in a six-State area in the central High Plains in 1978-1981 resulted in an increased cost of 55 percent over the cost of having USGS personnel perform the same work.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

Mission of the Geological Survey

The FY 1996 budget request for appropriated funds for the U.S. Geological Survey is \$586.4 million, an increase of \$14.9 million (or 2.6 percent) above the FY 1995 enacted level. The major increases proposed in FY 1996 include additional funding for mapping (+ \$5.2 million), the Federal water program (+ \$5.3 million), and additional pay costs (+ \$5.6 million). Partially offsetting decreases are proposed for one-time facility expenses (- \$4 million), State water research institutes (- \$4.6 million) and mineral resource studies (- \$1.5 million).

Director Eaton, one of the underlying assumptions of the "Contract with America" is that the size of government needs to be reduced. One of the agencies proposed for elimination by the Chairman of the House Budget Committee is the Geological Survey.

Question: What do you view as the most critical function carried out by the Geological Survey, and why is this an appropriate function for the Federal government, as compared to the States or local governments?

Answer: The USGS is the Nation's primary provider of earth-science information on natural hazards, the environment, and mineral and energy resources, the primary source of its data on the quality and quantity of the Nation's water resources, and the Federal Government's principal civilian mapmaking agency. To accomplish its mission of providing credible earth-science information in response to the needs of Federal, State, and local agencies, the USGS carries out a number of critical functions, such as:

- ▶ Evaluates hazards associated with earthquakes, volcanoes, floods, droughts, toxic materials, landslides, subsidence, and other ground failures; develops methods for hazards forecasting; and provides information to help Federal, State, and local agencies mitigate the effects of these hazards.
- ▶ Operates three volcano observatories and maintains mobile monitoring equipment for responding to volcanic eruption threats around the world.
- ▶ Assesses energy and mineral resources, provides unbiased information about their quantity and quality, determines origin and manner of occurrence, and develops techniques for discovery.
- ▶ Conducts an expanding National program to describe the status and trends in the quantity and quality of surface-water and ground-water resources. The USGS monitors more than 45,000 stations that measure the amount and/or quality of surface-water and ground-water. Of these 10,000 are stream gaging stations that supply critical information for water resource management and the NOAA National Weather Service's flood forecasts system.
- ▶ Conducts and sponsors supportive research in geology, hydrology, mapping, and related sciences.
- ▶ Establishes and maintains national earth-science data bases for use by Federal, State, and local land management and regulatory agencies; disseminates earth-science data and information; and produces and updates geographic, cartographic, and remotely sensed information in graphic and digital forms.
- ▶ Cooperates with more than 1,100 Federal, State, and local agencies. These partners provide nearly \$300 million annually in direct financial support. The funds in the mapping and water cooperative programs are matched by non-Federal cooperators. In 1995, to fund additional high-priority work they want done, cooperators will provide an estimated \$23 million over and above the dollar-for-dollar matching requirement.
- ▶ Serves as the lead Federal coordinator for national geographic, geologic, and water resources data, and provides other scientific and technical assistance.

This list, though not exhaustive, provides a good overview of the full scope of our critical activities.

As the Nation's primary earth-science agency, our work touches the daily lives--the health, safety, and well-being--of almost every American. Because our mission is scientific rather than regulatory, our data collection activities, assessment programs, and supporting research are unbiased, reliable, and widely accepted for policy decisions and in supporting litigation. Our products are used extensively by Federal, State, and local agencies, by academic and private sector institutions, and by the general public. Furthermore, the USGS ensures that the results of our work are given the widest possible distribution, which

ensures equal access, optimal utilization, and cost effectiveness. This nearly universal availability of USGS information is only possible because USGS is a Federal entity.

Moreover, I believe that USGS functions need to be accomplished by the Federal Government. Privately funded companies could not perform the same functions as USGS because (1) the research it performs is of a national and regional applicability, regardless of commercial need, and (2) its mission to provide accurate and unbiased answers to nationwide land and natural resource questions and emergency response could not be accomplished by the private sector.

Question: To what extent do your programs involve external cooperators, such as State and local governments?

Answer: The USGS is predominantly a scientific service organization with the goal of satisfying customer needs for information. USGS conducts research to support and enhance this principal service objective. The Department of the Interior as well as other Federal and State agencies seeks the scientific and technical assistance of USGS in three primary functional areas -- water resources, geology, and mapping.

An important component of the water resources function is the Federal-State Cooperative Program, a 50-50 matching program that assists States in responding to a wide variety of Federal environmental laws and requirements. This program leverages limited Federal, State, and local government funds available for gathering basic water data and conducting problem-oriented studies of shared interest to all participants. More than 1,100 State and local government cooperators voluntarily participate in the program, which supports 2/3 of the Nation's water data networks including more than 3,000 streamflow stations (which constitute the core of the National Weather Service's Flood Forecasting Network). The USGS's more than 100-year investment in water data with which to understand and manage its water resources would be lost, compromised, or rendered obsolete through failure to maintain and extend it. All of the data and results of USGS water programs, including the Federal-State Cooperative Program, are universally available through USGS water databases and published reports -- thus this information has multiple uses and users which would not be true if private consulting firms were the sole agents of States and the Federal government to collect basic water data and perform investigations.

The USGS maintains a hazard research and monitoring program and associated emergency response activities, including a nationwide seismic monitoring network. USGS estimates site-specific and regional geologic conditions and hazards (earthquakes, volcanic eruptions, landslides) and estimates potential adverse impacts in order to reduce risks to our Nation's citizens and infrastructure. USGS also assesses the distribution, quality, and quantity of our Nation's onshore and offshore minerals and energy resources. The private sector has no infrastructure or capability to run operational programs along with essential supportive regional or national geologic research or to marshal necessary resources and deploy them in times of natural disaster such as is routinely done by USGS for emergency services such as were performed for the Northridge, California earthquake; the great Mississippi flood; the eruption of Mount Pinatubo and several Alaskan volcanoes; and recent devastating floods in Arizona, Georgia, Texas, and California.

The USGS is responsible for establishing and maintaining availability of nationwide map information, including a national database, coordination mechanisms, and procedures for data sharing. Market forces and copyright interests would interfere with privately funded implementation of these functions. Map information, if totally supplied by the private sector, would cost more, would likely be unavailable at the time of need (especially in emergency) and could not be shared with other Federal users because of copyright restrictions imposed by the private sector causing numerous purchases of the same information and greatly increasing cost to Federal, State, and local governments. National consistency/comparability of map data collection and presentation would be impossible to

maintain, restricting or prohibiting the ability to conduct regional or national analyses and depictions of large-scale conditions.

USGS has more than 300 cooperative agreements with other Federal agencies, State and local entities and the private sector in implementing the National Mapping Program. Many of the agreements are performed with the assistance of the private sector via a contract (e.g., large scale equipment acquisition and modernization, procurement of all aerial photography, production of map products and data, and operation of the EROS Data Center in Sioux Falls, South Dakota).

Question: What level of cost-sharing or reimbursable agreements is USGS able to attain by leveraging the Federal appropriation with such partners?

Answer: Cooperative agreements with State and local governments are generally funded on a 50:50 matching basis, with one non-Federal dollar being provided to match each Federal dollar. Even during this time of shrinking State budgets and constrained resources, cooperators' annual offerings for matching have outpaced Federal appropriations. For example, cooperators in FY 1994 offered about \$25 million more than USGS was able to match in Water's Federal-State Cooperative Program and more than \$10 million in National Mapping's Data Cooperative/Partnership Program. Because of this shortfall between Federal and State matching funds, the cooperator in some cases will offer unmatched funds.

National Water Quality Assessment

Information provided in the budget (p. 219) regarding the national water quality assessment program indicates that between fiscal year 1991 and estimated funding through fiscal year 2000, USGS proposes that Congress appropriate \$564.1 million for this effort.

Question: What do you see as the value of this type of investment given the fiscal constraints placed on discretionary spending and efforts to balance the budget?

Answer: The National Water-Quality Assessment (NAWQA) Program provides critically needed nationally-consistent information on the status and the trends of the Nation's water quality. This information can be used to determine the degree to which past investments in water-quality management are working, and more important, to provide a basis for evaluating the effectiveness of future water-quality management and regulatory decisions costing many times more than the NAWQA Program. For example, the Bureau of Economic Analysis estimated that about \$184 billion (in 1984 dollars) was spent for water-pollution abatement and control during the period 1972-82. Most of this was for upgrading municipal wastewater treatment plants. As of 1984, little information was available on the effect of these improvements on the water quality of receiving streams and reservoirs. Expenditures for pollution abatement and prevention through the year 2000, including those for nonpoint sources, are projected to cost many times more than this amount. The NAWQA information base helps target strategies to locations where they are needed, and to chemicals which are of concern, providing a much more cost-effective strategy than a "one size fits all" approach.

The protection and enhancement of the quality of the Nation's ground-water and surface-water resources are high priority concerns of the public, and of government at all levels. Built into the design of NAWQA are liaison committees of State and local officials, who provide advice on the direction of NAWQA studies to insure their local as well as national relevance. NAWQA's value to State and local water managers for guiding legislation and voluntary measures for water-quality improvement has been demonstrated across the country.

Question: If the national water quality assessment were stopped this fiscal year, what would be the strongest argument USGS would make in defense of continuing this effort?

Answer: Human health and environmental health are inextricably linked to our Nation's water quality. Water quality has become an increasingly important component of our political, economic, social, and environmental decisionmaking. Because such decisionmaking affects the quality of each individual's life, as well as public and private expenditures of billions of dollars, it cannot proceed without adequate information and understanding.

Sound information on which to base water-quality management decisions is most valuable during times when existing fiscal resources for water management are severely constrained. Water-quality information is needed for management officials to identify and prioritize problem areas, to understand the causes of water-quality problems, to determine cost-effective "tradeoffs" or other pollution management methods, and to predict the likely effects of alternative management strategies to improve or protect water quality.

Question: How would you respond to those who might suggest that this funding would be better spent on water treatment facilities rather than on studies?

Answer: The Nation needs high quality water treatment facilities to provide a safe water supply for human consumption. However, efficient design and operation of these facilities is dependent on the availability of accurate information on current water-quality conditions and the factors affecting these conditions. For example, one of the products of the NAWQA Program which has been useful for managers of water treatment facilities is information on the seasonal occurrence of contaminants which may affect human health. The NAWQA study of the lower Kansas River basin provided valuable information on the seasonal occurrence of herbicides used upstream of treatment facilities. The study showed that atrazine was the most frequently detected herbicide, was found in the highest concentrations, and was most likely to exceed levels of concern to human health. Atrazine and similar herbicides are not effectively removed by traditional water treatment. The highest atrazine concentrations in the water were measured where the largest amounts of atrazine had been applied to the land, and concentrations were higher in spring and summer than in fall and winter. Based on this information, the Kansas State Board of Agriculture has established a pesticide management area to promote voluntary measures to decrease the amount of atrazine that enters drinking water supplies. They also now know that protection is most important during only half the year.

Information from the NAWQA Program is also useful to water treatment facilities in determining which contaminants to monitor, and which contaminants do not need to be monitored. NAWQA data may show that certain contaminants do not occur in surface-water or ground-water supplies within certain environmental settings. This information is used to reduce the monitoring requirements of water-treatment facilities.

The budget indicates (p. 213) that during FY 1996, the first set of 20 study-unit investigations in the national water quality assessment program (NAWQA) will shift from the first phase of intensive study to the less intensive phase of data collection.

Question: What is the anticipated cost differential between these two different phases? Can the savings be used to re-initiate the 5 study units discontinued in FY 1995? If not, why not?

Answer: The average cost differential between studies in the high intensity phase in FY 1995 and in their first year of the less intensive phase in FY 1996 is about \$500,000 per study. As this happens, however, the costs for the second round of study units increase by \$600,000 per study in order to begin their high intensity sampling. NAWQA is a rotational program, funding high intensity sampling for only a third of the studies at any one time. So though the locations of study units performing high intensity sampling does shift, the amount of work and the overall budget for the program remains level. Maintaining the budget at the FY 1995 level provides sufficient funds to conduct 15 high-intensity sampling efforts.

Without funding above that level, the 5 study units discontinued due to cuts during FY 1995 could not be restarted.

Question: Why are additional funds necessary to prepare reports for the first set of 20 study units? Shouldn't some cost savings become available as intensive studies are reduced and reports begin to be written?

Answer: Yes, there are significant cost savings, but these are rolled over for use in starting intensive sampling for the new studies. The rotational design of NAWQA means that as one set of intensive studies ends, another set begins. In FY 1996, intensive sampling activities are shifted to a second set of study locations, but intensive sampling still occurs. Costs for intensive sampling do not decrease, but are shifted to the new locations. The NAWQA design has always included funding for data interpretation and report writing in the several years after intensive data collection in a study unit stops. These are the funds needed by the first set of 20 study units in FY 1996.

Question: What will be the effect on the NAWQA program if the additional funds to add 5 more study units in FY 1996 are not provided?

Answer: A guiding principle of the NAWQA Program is to strive for quality in the assessment activities for individual studies. We propose not to compromise the quality of an individual study but rather reduce the number of studies that are underway at any given time to accommodate funding constraints. In addition, funding for other components of the NAWQA Program such as methods development activities and national synthesis studies will be proportionately reduced to meet funding limitations. The principal aspect of a strategy to meet a budget target that is level with FY 1995 is to reduce the number of studies underway. The five studies proposed to be reinstated would not be reinstated in FY 1996. Estimated cost of these studies in FY 1996 is \$1 million each. In priority order, from highest priority to lowest priority, the studies are Great Salt Lake Basins, Northern New England Basins, Northern Rockies Intermontane Basins, Kanawha-New River Basins, and Southern High Plains. The additional \$1.4 million needed to meet the FY 1995 funding level in FY 1996 would be derived from reductions in methods development activities and national synthesis studies.

Each of the five studies proposed for reinstatement in FY 1996 has unique environmental and cultural settings, and is affected by water-quality issues that are important building blocks for a comprehensive national assessment. Major water quality issues in these studies include:

Great Salt Lake Basins -- Utah, Idaho, Wyoming

- ▶ Contamination from industrial and urban land uses in ground-water recharge areas along the Wasatch Front
- ▶ Leachate from mine and uranium tailings and waste from metals refineries in urbanized areas along the Wasatch Front
- ▶ High nutrient concentrations in streams related to grazing and feedlots

Northern New England Basins -- Maine, New Hampshire, and Massachusetts

- ▶ Lack of information on occurrence of toxic compounds in ground water and surface water
- ▶ Elevated concentrations of naturally occurring trace elements and radon gas in ground water
- ▶ Effects of atmospheric deposition on headwater streams
- ▶ Chemical loadings to coastal waters

Northern Rockies Intermontane Basins -- Montana, Idaho, and Washington

- ▶ Includes Clark Fork, Coeur d'Alene, and Spokane River basins
- ▶ Sedimentation from timber harvesting and agriculture
- ▶ Toxic metals in surface and ground water related to mining

Kanawha-New River Basin -- West Virginia, Virginia, and North Carolina

- ▶ Organic and trace element contamination of streams related to chemical processing industries
- ▶ Contamination related to coal mining, atmospheric deposition, timber harvesting
- ▶ Fecal contamination, especially in the New River Gorge

Southern High Plains -- Texas and New Mexico

- ▶ Nutrient contamination of ground and surface water (especially playas) related to dairies and feedlots
- ▶ Contamination (VOCs, chloride, and metals) related petroleum exploration and production
- ▶ Contamination (pesticides and nutrients) in areas of intensive agriculture (especially cotton)

If assessment activities in the Southern High Plains study are not conducted, an important cotton producing area of the country will not be included in our national analysis on pesticides and nutrients. If the Kanawha-New River study is delayed, an important chemical manufacturing area will not be included as part of the national assessment of organic compounds. If the Northern Rockies study is delayed, an important mining area will not be included. Similarly, if the Northern New England study is delayed, the effects of loadings to important coastal areas will not be assessed, and if the Great Salt Lake study is not studied, an important urban area in the arid west will not be included in our assessment of urban-related organic compounds.

Question: If the 5 study units discontinued in FY 1995 are not able to be funded fully this year, what effect will this have on the third set of 20 units anticipated to begin assessment activities in FY 1997?

Answer: Cost estimates for a fully implemented NAWQA Program were prepared and presented to Congress in 1989, and included costs for a full round of 3 sets of 20 study units each. One set is intensively sampling water quality in any one year, and it is this intensive phase which requires the greatest costs in staffing, field studies and laboratory analysis. The five study units discontinued as a result of FY 1995 cutbacks could obviously not restart their intensive activities if funding were not restored in FY 1996. In addition, if the funding were not restored by FY 1997, only 15 of the 20 study units projected to start assessment activities at that time could actually begin. And without restoration by FY 2000, only 15 of the first 20 study units could be reactivated, and begin to assess changes in quality over the 9 years since their first intensive phase. Therefore the current funding levels are sufficient for a total of only 45, rather than 60, study units. This means that the NAWQA program would fall far short of the original coverage of about 45 percent of the land area of the country, and about two-thirds of the Nation's water use.

Question: Are the remaining 5 study units of the second group of twenty a higher priority than the first five elements of the third set of twenty study units?

Answer: If funding were not restored, the five study units in the second group of twenty would be considered alongside the third group of 20 for funding to conduct 15 studies in the third round--15 would be selected and 10 would not. Criteria for choosing the 15 to begin would likely be the same used for choosing which were selected for the second round--a combination of geographic diversity and the needs of State and local agencies. Study units containing a unique and important area, as defined by its collection of the human and natural characteristics likely to affect water quality, would be given higher priority. In all

likelihood several, but perhaps not all, of the 5 delayed studies would be selected for intensive sampling during the third round of NAWQA.

The budget indicates that approximately 10 percent of the total program budget for the national water quality assessment program will be used to develop improved methods for assessing water quality conditions and to better understand the factors affecting water quality conditions.

Question: To what extent will this affect the consistency of the data that will be collected under the program since there will be a time lag between implementation of the various study units?

Answer: Because NAWQA is designed as a long-term program, consistency of the data collected was a primary consideration in the Program's design. This consistency is maintained through the NAWQA quality-assurance program. This quality-assurance program includes nationwide consistency in study design, in field methods for collection of data, in methods of laboratory analysis, and through the collection of quality-control data alongside of water-quality data. When an improved method for assessing water-quality conditions is developed, side-by-side comparative studies of the old and new methods are run to evaluate data consistency and comparability before full-scale implementation. Data are collected using both the old and new methods simultaneously for a period of time to evaluate comparability over a wide range of field conditions. The decision to implement a change and the timing of that change are based on results of these comparative studies. New methods must inevitably be implemented to reduce costs and improve precision, but they are implemented only when we have sufficient information to compare the data they produce to previous methods. At that time, the change is made simultaneously nationwide in all study units.

Question: Will USGS' ability to draw conclusions from the assessment program be affected by a change in methodologies?

Answer: Methods changes are implemented only when they enhance our ability to assess water quality, as the state of the science progresses. For example, the laboratory method developed by USGS and currently used for analysis of triazine herbicides by NAWQA has reporting limits generally about one-tenth of the reporting limits of the method used in the pilot phase of the NAWQA program. The new method analyzes for about twice as many compounds as the older method, while costing only two-thirds as much. Consequently, our understanding of the occurrence of pesticides in water has been enhanced, and the significant cost savings have allowed the Program to assess a greater number of locations. Our quality-assurance program has demonstrated that the older data can be compared to the newer data, with the only constraints being those of the higher detection limits of the older method.

Map Production

The FY 1996 budget (p. 51) proposes a \$2 million increase for additional data acquisition for mapping purposes. The information to be gathered is proposed to be used by other Federal and State agencies to support resource and land management.

Question: Will these funds be used for data gathering of information that is presently not available, or to update information that is perhaps dated?

Answer: Based on the overwhelming number of user-identified requirements for data not currently available in digital form, these funds will be used primarily for gathering of previously unavailable digital data. The National Mapping Program efforts are able to address only 10% of the total number of requirements received each year. The USGS has estimated that these additional funds will augment data collection efforts by 3,000 digital line graphs and more than 900 digital orthophotoquads in support of high priority resource

management and GIS information needs of the Department of the Interior and other Federal agencies. High priority programs supported during FY 1995 included: the Forest Plan for the Pacific Northwest; transborder issues in the Lower Rio Grande River basin; cooperative State and Federal efforts in the Great Plains Grasslands; transportation and other issues in the National Park System; the White House Interagency Floodplain Management Task Force; and education, law enforcement, and other tribal issues on Indian lands. The FY 1996 high-priority data collection will likely address similar issues.

Question: What is the average age of the USGS map base? How much of the base budget for this program is allocated to updating existing data bases?

Answer: The average age is 18 years. Approximately \$2.0 million per year is expended in updating these map bases. More resources will be dedicated to updating as more digital data become available and as the program focusses on revising urban areas for Census 2000.

Question: Deferring what might be considered to be an optimal maintenance schedule is not uncommon for the agencies funded in this bill. Whether it is facility maintenance, museum exhibits, or map inventories, budget constraints often dictate the maintenance or updating schedule. What are the disadvantages, from your perspective, of failing to maintain a relatively short schedule for the updating of USGS' map products?

Answer: Most users of USGS map products identify the age of map data as their highest priority once digital data exist. USGS digital map products are frequently used in conjunction with other specialized data that are temporal in nature. The users need to spatially reference their data to locations on the earth's surface to ensure that their analyses and conclusions are accurate and valid with respect to the "real world." The accuracy and efficiency of users' analyses, modeling, or planning efforts and ultimately the effectiveness or consequences of resource and management decisions, are often negatively affected by using base data that are not current. Long update cycles for basic map data also impact the ability of USGS to produce map products that require digital base data as source (map revision, for example, uses digital orthophoto imagery as a source).

Some of the major agencies who rely on USGS digital map data have identified data requirements that could, according to USGS (p.52) require expenditures in excess of \$100 million to produce.

Question: To what extent do the major users of your map products within the Federal community reimburse USGS for its data collection and map production activities?

Answer: Reimbursements from Federal agencies totaled about \$12 million in FY 1995 for map and data production projects. Many Federal agencies are willing to assist with the funding for their requirements, although most agencies believe that USGS is funded to produce national mapping data and should not have to be reimbursed. For production of multipurpose, standard national cartographic data, USGS is generally compensated at the 50 percent level. In addition, approximately \$4 million of USGS data production effort is matched by other agencies -- either through data-share or work-share programs so that in total about 25% of the USGS production program is cooperatively funded.

Question: Are these other users of the mapping division's products involved in prioritizing data information that may need to be updated?

Answer: Yes, users are involved in various ways. Highest priority is given to the needs of Agencies that are willing to share in the data collection effort in some way -- through contributing funds, data, or work. In the case of the Department of the Interior High-Priority Digital Base Data initiative, the USGS directly engages the DOI agencies in setting priorities for the use of the funds allocated to their requirements. This process has been very successful at satisfying the highest priority requirements of the Department and at

leveraging the funds to address as many requirements as possible. The USGS is investigating the possibilities of developing similar processes for other groups of users. However, because USGS is only able to satisfy slightly more than 10% of the total data requirements received annually, it is difficult for all major Federal and State agencies to participate directly in the prioritization process. Therefore, USGS generally conducts an independent evaluation of the remaining requirements and the applications being supported to develop a National Mapping Program plan of work. In most cases, USGS production addresses overlapping mapping requirements identified by multiple agencies and bureaus as a means of leveraging the dollars to address as many requirements as possible.

Data Partnerships

An increase of \$3.2 million (+ 150 percent) is proposed for additional cartographic data requirements with partners.

Question: How is this initiative for the "National Spatial Data Infrastructure" different from the increased funding proposed for data gathering in the cartographic data program?

Answer: The focus of this program element is on partnerships. Since it was established in FY 1992, the National Map and Digital Data Coop Program included only data production partnerships with State and local governments and private industry. In FY 1996, this program is being renamed "Data Cooperatives/Partnerships" to reflect Federal cooperation in various data producing consortia and is being expanded to include the NSDI partnership activities in framework data, standards, and data clearinghouse activities. The NSDI initiative will more actively involve State and local governments and the private sector in providing geospatial data and enhancing the availability of their data for all potential users.

The increased funding for Cartographic Data and Map Revision is focussed on data needs from a national perspective, including such national interests as the National Forest System, the National Park System, natural disasters, and major environmental issues. Addressing these national data needs often precludes the availability of funds to address individual agency requirements. Therefore, the Data Partnerships funding will also be made available to match funds or resources for specific agency requirements.

Question: Are there specific projects already identified that would be accomplished with the proposed increase? If so, what would be the consequence for both the Federal side and the non-Federal partners if this increase were not provided?

Answer: The additional funding will support approximately 20 additional cooperative projects with State and local governments and the private sector to encourage development of the National Geospatial Data Clearinghouse to improve access to geospatial data. An additional 7 to 10 pilot projects will be initiated to develop framework data standards in support of national digital framework data. These projects are necessary to ensure the development of standards and guidelines that are acceptable to all levels of government and that can contribute to the ability to build geospatial data sets that have value to all users.

The increase will also be used to develop data production partnerships with the Bureau of the Census and the Environmental Protection Agency for nationwide data sets to support the Decennial Census; with the Corps of Engineers, NOAA, and State agencies in South Florida; and with State agencies in Alaska.

All of these activities address significant multi-agency coordination and cooperation, and all address common needs while leveraging appropriated funds and ultimately "doing more with less." If this increase were not provided the consequences for both Federal and State partners would be increased single agency/organization costs, potential duplication of effort, and inability to share/exchange data.

Question: Will the proposed increase be matched on at least a 1:1 funding basis?

Answer: The increase will be matched in various proportions and not only on a funding basis.

The NSDI cooperative agreements which address clearinghouse and framework activities require a minimum 25% share. Applicants will be required to form a partnership with other organizations. Examples might include State agencies cooperating with other State agencies, academia with State agencies, the private sector with State governments, and State with local governments.

Census, EPA, and USGS will jointly develop a national framework of revised transportation and hydrography data. The work effort will be shared among the three agencies with little exchange of funds.

For South Florida, USGS will prepare digital image maps and elevation data to support the Federal/State Everglades restoration initiative. The USGS is expecting numerous partners that would reduce the relative level of contribution per agency to 20% or less.

For Alaska, USGS will work to develop a partnership with a consortium of State agencies to address their needs for digital image mapping and digital base cartographic data. The costs of the Alaska work will be shared on a 50-50 basis.

Question: What portion of the proposed increase, if any, is associated with the 2000 Decennial Census? Why is it important to make these investments now if the census is not to occur for another 5 years?

Answer: Of the total \$3.2 million initiative for Data Partnerships, approximately \$500,000 will be used to support pilot development of framework data approaches to the Decennial Census. Updating transportation framework data in the Nation's major metropolitan and urban centers will satisfy two purposes: 1) providing the necessary base information for census takers to coordinate their assignments and to plot their findings, and 2) providing an initial transportation framework data set for the National Spatial Data Infrastructure.

Although the census will not occur until 2000, the Bureau of the Census requires the data two years in advance to adequately plan the scope and the workload for the actual census taking. Given the large volumes of data required to support this effort, it is necessary for USGS and the Bureau of the Census to begin this effort as soon as possible to ensure that the data are gathered by the beginning of January 1998. Furthermore, the more that USGS can spread this data acquisition process over a longer period of time, the greater opportunity there will be to lessen the impact on the other high priority programs also supported by USGS and the greater value the data and the framework concepts have to the rest of the geospatial data user community.

Geologic Hazards

In recent days, we have heard news reports of landslides in California associated with extreme rainfall.

Question: What involvement has the USGS had with the situation outside Los Angeles? What is the role of USGS in monitoring such an occurrence versus the responsibilities of the State and local agencies?

Answer: The USGS has examined some of the landsliding in the Los Angeles area at the request of the Federal Emergency Management Agency (FEMA) who is responding to a Presidentially-declared disaster for many of the counties in California. Two scientists spent a total of about one-person week on the problem. The role of the USGS was to assess the

immediate situation and make recommendations to FEMA and representatives of local government concerning short-term responses to the situation. The kinds of issues addressed included assessments of the need for further evacuation of residents, evaluations of the likelihood for further, faster, or enlargement of movement. Briefings were provided for government officials and the media about the nature of the disaster. The responsibility for decisions about evacuations and monitoring rests with State and local agencies. In its advisory capacity, the USGS informed people with a broad range of interests and responsibilities what to expect and how to monitor to predict future activity.

Question: Will the USGS be reimbursed for its activities? If not, why should the Federal government be involved when the benefits of USGS involvement are primarily local in nature?

Answer: The USGS will not be directly reimbursed for the response described above. However, the USGS will be reimbursed for follow-up activities with FEMA. For example, FEMA is sponsoring a workshop for its managers about procedures for disaster response that will utilize USGS scientists to describe various landslide disasters. The USGS is assessing the landslide incident to learn whether there are technical issues associated with the disaster that should be further studied through a cooperative research project. Criteria for proposing a research project there include transferability of research findings to other landslide-prone areas and the likelihood of improving technology.

There are five fundamental reasons that the USGS continues to respond to requests for assistance from other Federal agencies and State and local government officials:

1. The idea that the disasters are primarily local in nature is not true. It is true that the landslide at La Conchita discussed above is a local incident, but it is one of hundreds to thousands of landslides that have been triggered or reactivated in California by the extreme rainfall of 1995. About three-fourths of the State of California is included in the disaster declaration and many of the problems are landslide related, as well as portions of Washington and Colorado which have been effected. In other years, landslides have created problems in States such as New York, Ohio, Pennsylvania, and Virginia. As isolated incidents landslides have the appearance of being a local problem, but in aggregate, significant landslide hazards exist in virtually every State of the United States.

2. The immediate study of an active landslide has the potential of improving technology of recognition, analysis and mitigation of landslide problems. Landslide disasters in an area provide an opportunity to learn about a specific case and transfer the knowledge to other situations and people.

3. The information obtained by disaster response is valued by those who request it. Within the technical community, the USGS landslide program is a respected source of information because a few, highly trained and specialized scientists and engineers are available to answer questions about difficult problems on short notice.

4. It has been shown that careful application of existing technology to new development can dramatically reduce landslide damages. One element of the USGS landslide program is an information center that provides information on landslide technology to interested people.

5. The USGS landslide program is the only program in the Federal government dedicated to the reduction of landslide hazards.

Another aspect of the geologic program is the monitoring USGS does of volcanic ash. An important use of this information is warnings to the airline industry and aircraft, since volcanic ash is not picked up by radar.

Question: Again, this seems to be a benefit to a particular industry and sector of the economy. To what extent do the airlines, or the Federal Aviation Administration, cost-share in this activity?

Answer: The monitoring of ash from volcanic eruptions is a national and international issue because clouds of volcanic ash may move quickly from the site of the eruption across international borders. Locally, it is important to give warning to downwind communities to allow them to take measures to protect critical facilities to lessen the impact of ash fall. The recognition that an eruption has taken place and the knowledge of the likely size of the eruption depend on local observations not yet amenable to satellite remote sensing. The USGS works closely with the National Weather Service (NWS) and the Federal Aviation Administration (FAA) in evaluating reports of volcanic activity. Pilot reports from the FAA are provided to the USGS and the USGS assists in evaluating whether the activity is a threat which poses a threat to aviation or simply weather clouds or local fuming. The detection and tracking of ash clouds, and the dynamics of ash cloud movement are still not well understood, and improved warning of volcanic ash hazards is still an active area of research appropriate to the Federal government.

The hazard from volcanic ash is to the equipment owned by the airline industry, to the public located within the airplanes, and to downwind communities and facilities including airports. The private sector as well as Federal Agencies, including the USGS, the FAA, the NWS, and the Department of Defense are contributing to increased awareness of the problem by their participation in a series of ash-aircraft symposia (the proceedings of the first symposium in 1991 were recently published by the USGS) and by researching effects on aircraft systems and developing protocols for minimizing the effects of such encounters. The USGS role is to provide the earth science information needed to improve the effectiveness of a coordinated approach to this problem.

Neither the airlines nor the FAA or NWS provide funds to the USGS for this work, but they support studies within their own areas of expertise concerning the problem. Airlines are enthusiastic users of USGS information but feel that taxes they pay in support of Federal government aviation regulation and facilities cover this activity. From the USGS perspective, warnings of volcanic ash occurrence are part of overall warnings concerning the danger of volcanic eruptions.

Geologic Resources

As part of its assessment responsibility of the nation's mineral and energy resources, USGS also conducts assessments of the environmental impacts of future mineral and energy production.

Question: Does USGS have the primary lead for such impact assessments, or is your involvement linked to a request for cooperation from the land-managing agencies?

Answer: Mineral- and energy- environmental assessments for National Forests, Bureau of Land Management Resource Areas, and Bureau of Indian Affairs lands are linked to requests from those land-managing agencies. Each year we confer with those agencies, both at the national and local level regarding their priorities and begin as many studies as funding allows.

Question: When USGS is involved in environmental impact assessments, to what extent are these costs reimbursed by the party seeking to develop the resources and begin production?

Answer: The USGS is not reimbursed by parties seeking to develop resources because we do the work for the land-managing agencies, not the developer. The mineral- and energy-environmental assessments we do for the land-managing agencies are regional in nature and not site specific. Therefore, for mineral-environmental assessments, we are

reimbursed by the land-managing agencies in the following manner: with full concurrence by all agencies, Congress transferred funds from the Forest Service in FY 1983, and the Bureau of Land Management in FY 1984 to undertake assessments of the lands they manage. This was done because the USGS has the expertise to accomplish the task and surveying the Nations minerals is in our charter. Energy assessments are done upon request and the work is done collaboratively and, wherever possible, on a cost-sharing basis.

Earthquake Hazards

One of the aspects of the USGS earthquake program is continued research to understand the processes of earthquakes in order to minimize damage and economic losses.

Question: What progress is being made against the major outstanding issues identified in the budget -- namely, is earthquake prediction possible? when and where will ground failures and landslides occur?

Answer: Three outstanding issues facing the USGS's portion of the National Earthquake Hazards Reduction Program are: 1) characterizing the seismic hazards and risks on the national and regional (e.g., Pacific Northwest, Southern California, Central U.S., Intermountain West, etc.) basis; 2) improving our understandings of earthquake effects in our major urban areas at risk; 3) developing the ability to report earthquake information in real time. These issues do not include earthquake prediction, because over the last ten years it has become evident that earthquake prediction will remain an elusive goal. Instead, we have pushed NEHRP into laying the foundation for reducing future losses from earthquakes through improved mitigation and preparation.

The USGS has responsibility for understanding earthquake hazards and risks and communicating risk assessments to local, State and Federal groups that develop and implement mitigation programs. Across the country, our strategy for providing this information necessarily differs, because our knowledge of hazards and risks is variable from one region to another.

Ground failures and landslides can occur in response to volcanic activity, earthquakes heavy rainfall, ground water withdrawal, subsidence due to other natural causes (such as variations in surficial geologic materials), and human activity. Landslides are a National problem and occur in all 50 States. The enormous potential damages from ground deformation and landslides can be reduced by recognizing that a problem exists in a given area, understanding the causes, and applying appropriate loss reduction strategies, tailored to the type of ground failure and structures at risk.

The budget proposes an increase of \$1.2 million for urban seismic purposes. Ongoing program activities are to be complemented by the proposed funding increase, in response to new customer needs.

Question: What are the new customer needs identified by USGS? Are these information needs, or new technology and equipment?

Answer: The new customer needs are for rapid, real-time notification of the shaking effects of earthquakes. These are information needs that require new technology and equipment.

The increase for research on urban seismic hazards will allow the earthquake program to begin to exploit rapidly changing technologies in computers, telecommunications, and instrument design to provide rapid notification of earthquake shaking effects. The need for this rapid notification is particularly acute in modern, urban areas where despite great improvements in engineering design of individual structures, modern cities, with their web of sophisticated lifelines, communications systems, and financial networks are extremely

vulnerable. A large earthquake in any one of a number of metropolitan areas, as demonstrated by the Northridge and Kobe events, will cause considerable damage resulting in disruption of vital city functions, no matter how well individual structures are built.

Because of these threats, our most vulnerable cities need the necessary tools to allow rapid rescue and restoration actions when damaging earthquakes occur. The primary information needed, beyond the earthquake location and magnitude, is the pattern of strong ground shaking and the ability to describe how the ground surface has been deformed (faulting, landslides, liquefaction and ground displacements). The budget increase for urban seismic hazards will allow development of the seismic recording and analysis systems necessary to produce, in real time (that is, as the ground is still shaking) maps of the shaking pattern. Because generating these maps requires data processed from many seismometers, the ability to transmit large volumes of data in real time, and very fast computers, the capability to produce such maps was not possible even two years ago.

The first phase of the development of the urban hazards seismic system is underway in the greater Los Angeles area using supplemental funds provided by Congress as a result of the Northridge earthquake. Two hundred new seismic stations are being installed, high-precision deformation stations are being sited, digital communication links are being developed, and display software is being written to produce estimated patterns of ground-shaking in the near term and to predict losses when appropriate methodologies have been developed.

The USGS will use the experience gained in Los Angeles to begin the development of these systems in San Francisco, Seattle and Memphis. In these areas, we plan to develop required data telecommunication links, purchase and install seismic instruments, and expand computer processing/software to handle anticipated increases in new signals. In all three areas, demonstration projects are scheduled to show emergency response officials the projected capabilities of the new system and to provide the opportunity to adapt computer outputs to local needs.

Question: Why are 5 additional full-time equivalent employees necessary when the emphasis appears to be on updated instruments, enhanced telecommunications links, and data base conversion?

Answer: The initiative stresses the need for updated communications, computers, and sensors. These pieces must be integrated into the total system. This integration requires additional FTEs.

National Marine Sanctuaries

An increase of \$3.2 million is proposed for geologic studies in national marine sanctuaries and for regional research and assessment activities.

Question: How much of the proposed increase will be used for each of these functions?

Answer: Of the \$3.2M proposed increase, \$2M is for geologic studies in national marine sanctuaries and \$1.2M for regional research and assessment. Of the \$2M for national marine sanctuaries, approximately \$1.5M will be used for relocating personnel from the Pacific Marine Geology Branch to co-locate with the University of California at Santa Cruz in order to expand cooperative marine geologic investigations in central California in and around the Monterey Bay Sanctuary. Approximately \$500,000 will be used to expand seabed mapping and habitat characterization studies in Stellwagen Bank and Monterey Bay Sanctuaries.

Question: Why isn't the National Oceanic and Atmospheric Administration, which has responsibility for managing national marine sanctuaries, funding the study needs which have been identified?

Answer: NOAA agencies are sharing the costs of studies in the Stellwagen Bank and Monterey Bay National Marine Sanctuaries. This cost-sharing allows both agencies to do a better job carrying out their specific mission in an efficient manner. NOAA has provided shiptime valued at many hundreds of thousands of dollars on NOAA vessels for work in both of these sanctuaries. In FY 1995, the USGS and NOAA's National Ocean Service initiated a survey to map the entire Stellwagen Bank Sanctuary using a high-speed, computerized hydrographic survey vessel (R/V CREED) operated by the Canadian Hydrographic Service.

A high priority of the marine and coastal geology program is to provide scientific information on coastal and offshore areas to federal, State, and local agencies responsible for managing those lands. In recent years, several large sanctuaries have been designated along our coasts and on the continental shelves, and in many of these areas there is little information for making management decisions. These sanctuaries help foster sustainable industries such as commercial fisheries and tourism. In addition, a survey of information needs of non-federal users of the Exclusive Economic Zone (EEZ), conducted by the National Research Council, identified as a major need information on the sea floor character in shallower parts of the EEZ. Sanctuaries and the surrounding areas provide a place to focus geologic mapping and studies of sedimentary environments in the shallow EEZ that will provide information needed by Federal agencies as well as non-Federal users.

Question: What will be the total costs for each of the study areas (Monterey Bay, Florida Keys, and Stellwagen Bank) identified in the budget? What will be the duration of the respective study periods?

Answer: Under current plans, the geologic mapping and seafloor characterization in Stellwagen Bank will be completed in FY 1997; total cost in FY 1996 and 1997 is estimated at \$2.5 million. Geologic studies in Monterey Bay Sanctuary, the Nation's largest sanctuary, will be completed in FY 1999; total cost from FY 1996-1999 is estimated at \$8 million. Timelines and budgets for Florida Keys and other potential future sanctuary studies will be developed following consultation with NOAA concerning earth science information needs and priorities.

Question: What is the critical requirement for enhancing the current level of effort directed at gathering earth science information in each of these areas?

Answer: NOAA's Sanctuaries and Reserves Division is developing management and research plans for sanctuaries. Completion of the seafloor characterization mapping in Stellwagen Bank by FY 1997 and acceleration of studies in Monterey Bay Sanctuary will significantly benefit these developing management and research plans. An additional requirement involves the facility currently housing personnel of the Branch of Pacific Marine Geology. The USGS has been notified that the leased facility must be vacated necessitating a relocation of those offices.

Question: In terms of priorities, where does this initiative fit in vis-a-vis some of the other increases proposed in the USGS budget?

Answer: This initiative is a high priority within USGS and DOI.

In this same budget line-item, increased attention is proposed to be directed towards research and assessment to monitor the success of investments in the restoration of the Florida Everglades and Florida Bay.

Question: The budget, however, also discusses information needs in San Francisco Bay. What is the correlation between this initiative and the restoration of the Everglades?

Answer: USGS, through regional research and assessment activities, provides information to Department of Interior and other federal agencies needed to make land

management decisions and to evaluate the effectiveness of water management decisions. This initiative focuses on providing information for restoration and management in both South Florida and San Francisco Bay. Restoration of the Florida Everglades and Florida Bay requires an objective description of the state of the region prior to changes in water management that occurred during this century. Work will be conducted cooperatively with DOI agencies, the South Florida Water Management District, the Florida Department of Environmental Protection, the U.S. Environmental Protection Agency, and NOAA. Expanded work in San Francisco will focus on providing information to State and Federal agencies on the Sonoma Baylands, a pilot project to reestablish wetlands in this estuary that has lost 95 percent of its historic fresh and saltwater tidal marshes. Studies of the physical processes that degrade the wetland perimeter and sedimentation patterns that infill the wetland will contribute significantly to management procedures. Activities will also focus on assessing the response of the ecosystem to water management changes resulting from the recently completed State-Federal plan for the Sacramento River Delta in San Francisco Bay.

Question: What is the current level of effort in both the Everglades and San Francisco Bay? How will this effort be enhanced if increased funding is provided?

Answer: Within the USGS marine and coastal geologic surveys, the FY 1995 level of effort in regional research and assessment in South Florida is approximately \$550,000 and in San Francisco Bay approximately \$300,000. If increased funding of \$1.2M for regional research and assessment is provided as proposed in the President's Budget, approximately \$900,000 will be used to intensify wetland and sedimentation studies in South Florida and San Francisco Bay and up to \$300,000 may be used for scientific support of resource management in the Klamath/Trinity region, Chesapeake Bay, or the Great Lakes.

Federal State Cooperative Water Program

The Geological Survey, in cooperation with its state partners, supports more than 7,000 continuous record streamflow measurement stations. About 3,000 of these stations are used by the National Weather Service for flood forecasting. The budget indicates (p. 233) that "by long standing agreement," the NWS provides no funds for these stations.

Question: What is the rationale in today's budget environment for not having the National Weather Service participate in some manner of cost-sharing for this program?

Answer: The benefits from these gages accrue to the many communities and Federal facilities that utilize the National Weather Service (NWS) forecasts. These entities already contribute significantly to the funding of these stations. Shifting some of the cost burden of these stations from the USGS budget to the NWS budget would have no impact on the overall size of the Federal budget.

Question: Are there programs of the National Weather Service from which USGS benefits but does not have to share in the cost?

Answer: USGS uses significant amounts of meteorological data in its interpretive studies and in planning the daily operations of its data collection programs. These NWS data are free to USGS, just as USGS data are free to all users.

State Water Resource Research Institutes

In FY 1996, the Administration is proposing to eliminate USGS' support for the state water research institutes. One institute is located in each State, as well as the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

Question: Given that these \$4.6 million in Federal funds leverage nearly \$60 million in other funding sources, wouldn't you think this is a cost-effective investment? If so, then why is this program proposed for termination?

Answer: The Institutes program, though important and cost-effective, supports the national mission of USGS less than other programs. By design, the programs of the Institutes are focused on priority needs of the State and are not required to contribute to national data bases or resolve multi-State water issues. Funding from the States and from Federal agencies such as the National Science Foundation, Environmental Protection Agency, and Department of Agriculture, along with specific project related funding from USGS, will continue to support water science in the States. On average, Federal funds to Institutes comprise less than 10 percent of their total funding.

Despite the loss of line item funding, USGS will continue to provide support to university research in two ways. The first is funding provided to university professors and students through the Institutes in support of existing USGS line item programs such as the Federal-State Cooperative Program and the National Water-Quality Assessment Program, and in support of reimbursable programs such as those with the Department of Defense and the Department of Energy. The second is through a student internship program, which provides funding from USGS projects to Institutes for support of university students working alongside USGS scientists and technicians. In 1994, USGS provided funding to 50 university professors and 700 students. Total funds provided to universities for all assistance approached \$10 million (these funds are separate from the Institutes Program funds). Because of the success of these partnerships, we expect them to grow significantly in the future.

Question: Are there substantive reasons the Administration is withdrawing its support from this program, or was the decision based on budgetary considerations?

Answer: This decision was based on budgetary considerations, the need to maintain a capability for fulfilling national core functions, and the success of university partnerships beyond the Institutes Program.

Buyout Legislation

Question: To what extent has USGS participated in the early separation incentives ("buy-outs") authorized by the Congress last year?

Answer: To date, USGS has accepted 580 buyouts in FY 1994 and 194 buyouts in FY 1995. In addition, currently the USGS has received 663 deferred buy-out requests through the deadline of March 31, 1995. These 663 deferred buyouts, if accepted, will occur at different points throughout the rest of FY 1995, FY 1996 and through January 3, 1997.

Question: What are the salary savings realized by the USGS by this participation? How are these dollars being used now?

Answer: USGS has saved approximately \$38 million from the FY 1994 and the FY 1995 buyouts. Savings realized due to the buyout have been (1) redirected to reinvestment in USGS program activities, especially fieldwork in programs where operational funds were unavailable for several years due to unfunded inflationary increases. Without the ability to undertake work in the field, science quickly becomes static and (2) support programs and projects currently included in the FY 1996 budget increase request. A decrease in this funding request would further erode workload outputs of programs required to absorb this additional fixed cost.

Your budget requests a base increase of \$534,000 for a Per Capita charge required by the buyout legislation.

Question: What is this charge? How would these increased funds be used if provided?

Answer: This charge was required by the Federal Workforce Restructuring Act of 1994. It mandates in fiscal years 1995, 1996, 1997, and 1998, that all government entities pay, through the Office of Personnel Management (OPM) into the Treasury, an amount equal to the number of employees under either CSRS or FERS retirement systems on the rolls as of March 31st of that year, times \$80. This contribution is intended to further fund the retirement fund and has no direct relationship to any buyouts offered. It has been treated as any other increased pay related expense and shown as a base adjustment.

Question: Are these funds that will be used by the USGS, or are the increased funds to be used by another Federal agency?

Answer: These funds will be passed directly through OPM into the Treasury. The USGS will have no use of these funds.

Question: Why is increased funding requested to cover these costs when no decrease is proposed in the budget for the savings associated with the buyout? Why shouldn't agencies cover this cost out of the savings realized due to the buyouts?

Answer: Buyout savings have been redirected into program areas as outlined in a previous answer. A decrease in this funding request would further erode workload outputs of programs required to absorb this additional fixed cost.

QUESTIONS SUBMITTED BY SENATOR J. BENNETT JOHNSTON

Water Resources Research Institutes

Question: What is the rationale for elimination of the State Water Resources Institutes Program? How does this relatively small program compare in productivity with the Survey's "in-house" research and monitoring programs? What measures would you use to evaluate the Survey's productivity?

Answer: The Institutes program, though important and cost-effective, supports the national mission of USGS less than other programs. By design, the programs of the Institutes are focused on priority needs of the State and are not required to contribute to national data bases or resolve multi-State water issues. Funding from the States and from Federal agencies such as the National Science Foundation, Environmental Protection Agency, and Department of Agriculture, along with specific project related funding from USGS, will continue to support water science in the States; in addition, USGS has a number of other efforts underway in support of the academic community, through the Institutes.

No attempt has been made to compare the research productivity of the State Water Resources Research Institutes with that of USGS overall. Such a comparison would be difficult because of differences in the scope and objectives of the programs. The research conducted by the Institutes consists mostly of relatively small projects directed at State and local problems and has an appropriate and important emphasis on graduate student training. The USGS in-house research program is, to a large extent, conducted in support of large-scale, long-term, nationwide water resource programs, such as the National Water-Quality Assessment Program, the Toxic Substances Hydrology Program, and the Global Change Hydrology Program. The research conducted within USGS is highly focused on improving the USGS capability to conduct its core mission of resource appraisal and collection and analysis of water data. Researchers in USGS are very active in providing classroom and one-to-one training for USGS hydrologists, providing computer models and new field sampling methods. The direct linkage to the USGS mission is the major difference between Institute research and USGS internal research.

The review of USGS research is at least as intense as that of the Institutes. There are many mechanisms in operation for the purpose of evaluating the Bureau's water science program and the direction and quality of this program. These mechanisms impact decisions regarding the internal allocation of funds. Internal and external review of research activities conducted through the USGS Water Resources Investigations program include the following:

- ▶ National Research Program review of ongoing and proposed research projects on an annual basis by research advisors in each of the following major fields of water and water related science: ground water chemistry, surface water chemistry, ground water hydrology, surface water hydrology, geomorphology and sediment transport, and ecology.
- ▶ Research activities conducted in each of the Division's 48 District Offices are reviewed for progress and direction annually as part of the program review process and intermittently as part of more intense "discipline" reviews conducted of District programs by the Offices of Surface Water, Ground Water, and Water Quality.
- ▶ Research Grade Evaluation review of the progress of researchers and their research endeavors. These reviews include internal and external panels who make in-depth appraisals of the quality and impact of each scientist's work.
- ▶ External review by the Committee on USGS Water Resources Research of the Water Science and Technology Board, National Research Council.
- ▶ Review of the progress and relevance of Division science programs through external advisory groups such as National Water-Quality Assessment Study Unit and National Advisory Boards, and various advisory committees established under Office of Management and Budget Memorandum 92-01.
- ▶ The annual resource allocation process, which weeds out less productive and less relevant scientific endeavors.

Question: Could any of the elements of the Water Resources Division's national research program be better performed by university-based researchers rather than "in-house" researchers? Are there cost efficiencies involved?

Answer: Universities, other government entities, and the private sector generally lack the infrastructure and expertise to carry out long-term interdisciplinary investigations which provide the scientific basis for national assessments. These studies include: integrated efforts in site characterization; data collection on surface water and ground water, including water, sediment, chemistry, and biota; and process research including development and testing of mathematical models. Further, the direct linkage of the USGS National Research Program with other USGS water-resources programs assures that the research is relevant to Federal water-resources needs. Universities generally do academic research over short time-frames to address local needs.

Question: Describe the Water Resources Division's Cooperative Research Program. Would it be more efficient for this work to be conducted by the private sector?

Answer: No, it would not be more efficient and would almost certainly be more costly. It is conceivable that the State agencies could hire private contractors to do this work, but the contractors would need to have trained personnel in a number of interrelated scientific disciplines, standardized field and analytical methods, specialized computer hardware and field equipment, and data systems and analytical tools to undertake the tasks performed by USGS. The duplication of these efforts in many different consulting firms across the country would result in an increased cost of the program, with no guarantee that consistent data collection and investigations methods were being used from State to State, or even from study to study within each State. The use of multiple methods of unknown quality and

numerous, inconsistent data systems would greatly reduce the utility of the data and derived information for assessing and managing the nation's water resources. Access to data would be greatly complicated due to the wide range of agencies that would be collecting and storing it.

The USGS Water Resources Federal-State Cooperative Program is the source of today's knowledge of streamflow and ground-water supplies, water-quality status and trends, and modeling tools for assessing the potential impacts of water management plans and regulatory initiatives. As such, it serves a vital role in both State and Federal water management. In addition to its research and investigations activities, the program currently supports more than 4,800 streamflow stations, the collection of water levels at 27,300 wells, and water quality monitoring at 6,700 streams, rivers, and wells. Much of the data from these monitoring stations is used for real-time resource management, including 3,000 streamflow stations used by the National Weather Service for flood forecasting.

USGS cooperators support the Cooperative Program because the work is directed toward potential and emerging long-term problems, such as water supply, waste disposal, ground-water quality, effects of agricultural chemicals, floods, droughts, and environmental protection. Standardized methods are used so that study results are transferable to similar problems in other areas and contribute to issues that have interstate, regional, or international significance. Data collected by USGS and the results of its studies are accepted by parties on both sides of disputes and furnish the basis required for interstate and international compacts, Federal law and court decrees, congressionally mandated studies, regional and national water-resources assessments, and planning activities. Having USGS do the work results in consistent techniques of data collection and archiving, with the information stored in a common data base readily available to all.

The jointly planned and funded Cooperative Program provides assurance that the information needed to meet national and local needs will be produced and shared. Because rivers and aquifers cross jurisdictional lines, studies and data collected in one county or one State have great value in adjacent counties or States. It is therefore effective to have one agency involved in these studies so that the information can be shared and is comparable from one jurisdiction to the next. Through the pooling of support, USGS is able to conduct studies that lead to an improved understanding of the nation's water resources, to the mutual benefit of all levels of government—at substantial savings.

Question: Could the national streamgaging program of the Survey be operated by the private sector? What is the average cost of operating an average streamgage for a year? Has the Survey evaluated whether or not the private sector could operate the program at less cost?

Answer: The private sector is capable of operating streamgaging stations, but it is highly unlikely that the private sector would be interested in or able to continue the present national level streamgaging program on a cost-effective basis. The cost of operating a streamgaging station varies widely depending on accessibility, climate, equipment and instrumentation requirements, and the types of information being collected, but an average annual cost would be about \$7,500.

In 1989, a committee of water resources professionals investigated the feasibility of privatizing hydrologic data collection, including the USGS streamgaging program. Committee members represented State water managers, American Society of Civil Engineers, three Federal agencies, and the academic community. After surveying a wide cross-section of the user community and potential private contractors, the Committee concluded that:

- ▶ Federal hydrologic data collection is widely believed to be an appropriate Federal function.

- Privatization of data collection would be disruptive and might render a valuable engineering resource worthless.

Also, available information indicates that contracting out data collection activities would not be cost effective. One such attempt in a six-State area in the central High Plains in 1978-1981 resulted in an increased cost of 55 percent over the cost of having USGS personnel perform the same work.

Having USGS do the work results in consistent techniques of data collection and archiving, with the information stored in a common data base readily available to all. As a result of interagency working arrangements developed over the past 100 years, USGS operates data collection stations supported by Federal Program funds, the Federal-State Cooperative Program, and reimbursable monies provided by other Federal agencies. This coordination provides a synergistic effect on data collection that accrues to the benefit of the water-information user community at large.

Question: Does the Survey perform work for other federal agencies? Please cite examples.

Answer. Yes, the USGS does perform work for other Federal agencies. In FY 1994, that work totaled almost \$120 million. USGS is recognized as a provider of objective data and analyses and, for this reason, its information has been credible in court and commonly is used by other Federal agencies such as the Bureau of Indian Affairs in the adjudication of water rights or the Department of Defense (DOD) in ground-water contamination issues. The rapid growth in other Federal agency (OFA) requests for USGS assistance clearly indicates the value and relevance of USGS capabilities to the national interest, specifically in addressing real needs to the Federal government in meeting its environmental responsibilities.

An example of a long-term USGS/OFA relationship is the reimbursable program with the U.S. Army Corps of Engineers. This program was established in the 1940's to meet water-quality and water-quantity information needs in connection with the Corps' public works responsibilities. Since that time the program has grown, and today USGS operates about 2,300 gaging stations nationwide to provide information needed by the Corps for operational purposes.

More recently, DOD has requested USGS assistance in understanding the hydrogeology of military facilities that will enable managers to assess contamination problems and predict pathways of potential ground-water contamination. Other current work for DOD includes bioremediation studies of contaminated water, which can provide information needed to help determine if more costly remedies such as "pump and treat" are necessary. Studies such as these provide understanding required for OFAs to address specific concerns and also enhance the overall programs of USGS. These additional benefits include opportunities to develop hydrologic sampling and analysis techniques related to organic contamination and to contribute to the understanding of regional water issues.

USGS work with the Department of Energy is currently focused on the evaluation of the suitability of the Yucca Mountain area as a potential repository site for the disposal of high-level radioactive wastes. An essential part of this work is defining the geology and hydrology of the area to determine if the site meets the guidelines for suitability outlined in Federal regulations. Specific investigations include surface geologic mapping, geophysical surveying, paleontologic and isotopic studies to infer past climates and predict future climates, and regional studies of streamflow, runoff, and ground-water flow.

Question: Are there activities that are performed by the Survey for other federal agencies that could or should be conducted by the private sector or the academic research community?

Answer: There are three primary reasons for continuing the study of our Nation's water resources at the national level, within a single agency:

- ▶ Objectivity in the collection and analysis of water information is imperative. Because USGS does not have water management, development or regulatory responsibilities, the agency has maintained a unique position to ensure the integrity of the data collected. Other Federal agencies (and States) choose to cooperate with USGS in water issues because USGS is viewed by all parties as a reliable provider of objective, unbiased information. This is an extremely important attribute. USGS data is seldom challenged, and is never challenged from the standpoint of objectivity. This would not be the case for a private consultant.
- ▶ Availability of the data from a single source such that agencies and engineering firms can go to one data base to acquire the needed data, rather than having to seek out and learn to use multiple systems in multiple jurisdictions.
- ▶ National consistency of approach in the study and analysis of water resources is critical to developing protocols, guidelines, legislation, and an overall inventory of water resources quality and trends.

Since none of the activities undertaken for OFA's are research activities, it is unlikely that the academic research community could undertake them.

Question: What process does the Survey follow to ensure that its work for other federal agencies does not violate the intent of the Economy Act?

Answer: The Economy Act continues to prevail as the legal basis for USGS to perform reimbursable services for other Federal agencies provided: (1) the requesting agency determines, among other things, that "the ordered goods or services cannot be provided as conveniently or cheaply by a commercial enterprise," and (2) USGS complies with the Competition in Contracting Act of 1984 in its own procurement of property and services. The latter requirement is being met by USGS, operating under the Government-wide Federal Acquisition Regulations (FAR, sub-part 17.5). The former requirement is the responsibility of the funding agency.

Question: What is the status of the Critical Ecosystems Initiative? Has work on this initiative been discontinued?

Answer: Funds for the Critical Ecosystems Initiative (now the Ecosystem Program) are located in line items corresponding to the discipline areas represented within the program. The work is continuing in South Florida and San Francisco Bay as planned. The Program provides scientific support and technology to agencies seeking to manage natural resources and restore ecological functions while maximizing benefits to humans. The program covers activities related to hydrology, wetlands geochemistry, toxic contaminants, sediment transport, salt water intrusion, ecosystem history, map production, and scientific support for hydrologic modeling, which local, State, and Federal agencies have indicated are high priority needs for scientific information. In San Francisco Bay and Delta, the funds are also being used to enhance access to USGS information collected inside and outside of the Program.

Question: What type of activities does the Survey conduct under the Global Change Hydrology Program? Does this deal with predictions of global warming or global climate change? Please cite several practical examples of the usefulness of its findings.

Answer. The Global Change Hydrology Program conducts: (1) studies of the behavior of hydrologic systems to variations in climatic conditions over the past 100 years and to changes in climate over the past thousand to hundreds of thousands of years; (2) developmental work on models and modeling tools to determine how climatic variations

and changes (short- and long-term) influence the availability of water in specific river basins; and (3) field-oriented research on the movement of water and carbon between the land and the atmosphere. Most of this work is focused on understanding contemporary hydrologic conditions and processes. For example, an important question being answered is, "are floods and droughts associated with particular kinds of climatic patterns and are they, therefore, predictable?" In this context, some investigations have attempted to assess the potential hydrologic consequences of longer-term climatic change. Moreover, the research on carbon is designed to provide at least a partial answer to the "missing carbon" question and to why the atmosphere has not warmed as rapidly or as much as climate models have predicted. Among the most important practical results of this program are:

- ▶ The development and publication of an easy to use and flexible modular hydrologic modeling system that is being used on a routine basis by the Bureau of Reclamation for water resources systems operations in several river basins in the western U.S., and by the Agricultural Research Service, the Forest Service, NASA, TVA, EPRI, and the Governments of Germany, France, and Japan.
- ▶ An improved procedure for calculating evapotranspiration in climate models that has led to more realistic simulation of hydrologic conditions. Improved characterization of terrestrial hydrologic conditions, and clouds, are two of the most important needs for: producing more realistic simulations of climatic variation and change.
- ▶ The demonstration that specific types of climatic patterns are responsible for past episodes of floods and drought in the western United States. This information has significant implication for flood- and drought-frequency assessment, as well as for the development of techniques for improved forecasting of hydrologic hazards.

Question: The Water Resources Assessment Program produces a series of National Water Summary reports. How are copies of these reports distributed? How widely are they distributed? Are they sold or distributed free of charge? Please cite practical examples of the use of these reports in decision making.

Answer: *National Water Summary* reports have been distributed via conventional mechanisms--hand-delivered or sent through the mail in bulk or individual copies. In the past, the distribution medium has been a published paper product only. Some, if not all, of the *National Water Summary* on Wetlands, currently being prepared, will be available on the Internet. Courtesy copies of the *National Water Summary* are distributed nationally to a select group--all Senators, Congressmen, and Governors receive one copy. Additional copies are held in reserve to fill requests from schools and colleges--one book per school. In addition, copies are sent to each USGS District office for courtesy distribution to USGS' State and local cooperators, because without their long-standing support, a *National Water Summary* would not be possible. Copies of the *National Water Summary* are sold through the Government Printing Office and through selected USGS sales distribution centers in Denver, Colorado, and Reston, Virginia. The sales price is set by the Government Printing Office. Courtesy copies, as discussed above, are distributed free of charge.

Examples of *National Water Summary* reports being used for decision making follow:

- ▶ March 1995--The *National Water Summary* on Wetlands (in preparation) was used as a source document to provide scientific input to Congressman Gilchrist (Maryland) on the importance of wetland functions relative to water quality for the Clean Water Act reauthorization hearings.
- ▶ March 1995--The *National Water Summary* was one of the documents used by the Organization for Economic Cooperation and Development, a Paris-based group of 26 nations, to review U.S. environmental performance. The reviews were structured to focus on accomplishments, not on plans

- October 1993--The 1990-91 *National Water Summary* on Surface-Water Quality was provided to the Senate Committee on Environment and Public Works to provide information on trends in water quality since enactment of the Clean Water Act. The Smith, Alexander, and Lanfear article on stream water quality in the conterminous U.S. is the definitive document on surface-water quality trends in the U.S.

In addition to explicit uses in decision making cited above, the *National Water Summary* has been used to provide general Statewide information for consultants, cooperators, educators, and most recently (February 1995) to the United Nations Economic Commission for Latin America and the Caribbean.

Question: Several federal agencies have sought to increase their efficiency through internal competition within the agencies or by making funds more available for competition in the open markets. The USGS seems to remain highly internalized in its research and monitoring programs. What have you done to increase competition?

Answer: There are many mechanisms in operation for the purpose of evaluating the Bureau's water science program and the direction and quality of this program. These mechanisms impact decisions regarding the internal allocation of funds. Internal and external review of research activities conducted through the USGS Water Resources Investigations program include the following:

- National Research Program review of ongoing and proposed research projects on an annual basis by research advisors in each of the following major fields of water and water related science: ground water chemistry, surface water chemistry, ground water hydrology, surface water hydrology, geomorphology and sediment transport, and ecology.
- "Applied research" activities conducted in each of the Division's 48 District Offices are reviewed for progress and direction annually as part of the program review process and intermittently as part of more intense "discipline" reviews conducted of Division/District programs by the Offices of Surface Water, Ground Water, and Water Quality. Also, a merit selection process ensures that high quality projects in the Federal-State Cooperative Program receive priority funding.
- Research Grade Evaluation review of the progress of researchers and their research endeavors.
- External review by the National Academy of Sciences and its Water Science and Technology Board.
- Review of the progress and relevance of Division science programs through external advisory groups such as National Water-Quality Assessment Study Unit and National Advisory Boards, and various advisory committees established under Office of Management and Budget Memorandum 92-01.

Question: How many streamgaging stations does the Survey operate? Please describe this program.

Answer: USGS operates more than 7,400 continuous recording streamflow gaging stations Nationwide. Funding for the streamgaging network is derived from three sources--the USGS Federal Program, the Federal-State Cooperative Program, and reimbursements from other Federal agencies. In all, more than 600 Federal, State, and local agencies provide funds to support the network. Specific uses of data from these streamflow gaging stations include the following:

- enhancing the public safety by providing current data for forecasting and managing floods

- ▶ identifying and managing flood plains
- ▶ operating and designing multipurpose reservoirs
- ▶ managing releases of treated water or mitigating the effects of pollution
- ▶ designing highway bridges and culverts
- ▶ determining and monitoring in-stream flow needs for aquatic habitat
- ▶ developing or operating recreational facilities
- ▶ determining water availability of power production
- ▶ designing, operating, and maintaining navigation facilities
- ▶ allocating water for municipal, industrial, and irrigation uses
- ▶ characterizing current water-resources conditions (both quantity and quality)
- ▶ administering compacts or resolving conflicts on interstate rivers
- ▶ defining and apportioning the water resources at our international boundaries

About 2,000 of these streamflow gaging stations are equipped with devices to monitor water quality. For example, the National Stream Quality Accounting Network (NASQAN), which is a part of the larger national network, provides information to assist in continuously assessing the water quality of major rivers in the United States with respect to both natural and human-induced factors. Most NASQAN stations are located at the mouths of large rivers to measure the quantity and quality of water moving from one drainage basin to another or from the rivers to the oceans, estuaries, or the Great Lakes.

In addition to these surface-water gaging stations, in FY 1994 USGS supported the collection of data on ground water levels at about 26,000 public and privately owned wells. Water level data are used to assess changes in ground water storage that can result from natural causes (such as drought) or from human activities (such as ground water pumpage). Selected water quality measurements are made at about 10 percent of those wells. These data are necessary to determine suitability of water for various uses, to identify water quality trends, and to evaluate the effects of stresses on aquifer characteristics.

Question: Are all these gages part of the National Flood Forecasting Network? Are those that are not part of some essential national function?

Answer: About 3,000 of the 7,400 streamflow gaging stations operated by USGS are used by the National Weather Service for flood forecasting and warning. Streamgaging stations provide vital information to assist water managers in making day-to-day operational decisions on water requirements for municipal, industrial, and agricultural use, for hydroelectric power generation, and for flood control. For example, data from many USGS gaging stations are used by the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation, and others to operate more than 2,000 flood control, navigation, and water-supply reservoirs.

Question: Are some of these gages operated as part of the Federal-State Cooperative Program?

Answer: More than 4,000 of these streamflow gaging stations (about 58 percent) are funded through the Federal-State Cooperative Program. The Cooperative Program also provides partial support for another 9 percent of the total network of these stations.

Question: Has the Survey evaluated the cost effectiveness of privatizing the streamgaging network?

Answer: An analysis by USGS in 1983 reported that costs of collecting hydrologic data by contract in parts of six States during 1978-81 were about 55 percent greater than performing the same work using USGS personnel. Similarly, a review of the work of the Water Resources Branch of the Inland Waters Directorate of Environment Canada by R L Walker & Partners and Acres International Limited (1985) concluded there was little probability that the private sector could operate at the same or lesser level of cost. They reported considerable concern by the clients and users regarding any changes that could

adversely impact the consistency and quality of data, and noted that privatization did not appear practical or economic in terms of major functions.

Responses to questionnaires circulated by the American Society of Civil Engineers in conjunction with a 1989 USGS study suggest that enthusiasm for taking on the data-collection role is limited in the non-governmental sector. Fourteen firms active in water-resources related consulting were polled, and five responses were received. Only one firm expressed a major interest in collecting hydrologic data under privatization; at the time, that firm collected such data at fewer than ten sites.

Question: How would funding the Section 104g regional competitive grants program be beneficial in addressing multi-jurisdictional issues, such as coastal wetlands along the Gulf Coast or some of the river basin-wide issues in the arid West or the Pacific Northwest? Please cite examples.

Answer: Section 104(g) of the Water Resources Research Act of 1984, as amended, provides for a competitive matching grant program to support research "on water problems and issues of a regional or interstate nature beyond those of concern only to a single State and which relate to specific program priorities identified jointly by the Secretary and the institutes."

The Federal Government is virtually the only source of support for research addressing regional and interstate water resources problems. Because of the interjurisdictional nature of many water resources problems, individual States are often reluctant to enter into cooperative regional research projects. Each has an incentive to consider its own vested interests over the collective interests of the region as a whole.

This program could support research on regional problems such as those associated with management of the water and related ecological problems in the Colorado River system, the Truckee-Carson system, the Columbia River Basin, and ground-water management and related coastal wetland problems of the Gulf-Coast region.

Question: How could the Institutes Program be integrated into the research activities of other Federal agencies with water resources responsibilities?

Answer: The Institutes have proposed that a Federal liaison committee be created to facilitate consultation by the Institutes with Federal agencies on their research needs and coordination of their research agendas. The Institute program could serve as a mechanism to facilitate and coordinate agency support of water resources research at universities nationwide.

Question: Would the Institutes' expertise, capability, and structure help to meet a significant portion of the Bureau of Reclamation's research program?

Answer: The Institutes could address some portion of the Bureau's research needs.

Question: Would the Institutes help to meet the research, information, and data needs of the Western Water Policy Review? I understand such a proposal has been submitted to the Assistant Secretary for Water and Science.

Answer: In a letter to the Assistant Secretary for Water and Science, the Institutes offered to assist in providing the research, information, and data necessary for the Western Water Policy Review. They could provide assistance to the team conducting the review.

Question: The Survey has created a student internship program with the Institutes. Please describe that program. How does it help to address the Survey's needs?

Answer: The USGS Water Resources Research Institute Internship program is a means of providing undergraduate and graduate students with career-enhancing field, laboratory, and research experience through participation in USGS activities as interns. The program is open to undergraduate and graduate students at colleges and universities across the Nation. Funds to support the interns are derived from USGS projects or programs that desire to support student interns as part of the mix of efforts required to carry out program or project activities. These funds are consolidated and awarded under grants to Institutes participating in the internship program. The Institutes use these grant funds to employ students competitively selected from among applicants at colleges and universities across the Country. The students are assigned USGS mentors on projects and programs providing the funds to support the internships.

The Internship program fulfills two objectives. It helps to provide students with field and laboratory experience, the lack of which "is a serious educational problem" that has "reached crisis proportions" according to the National Academy of Science. Secondly, it assists USGS by providing a source of student help that does not enlarge the Federal workforce.

Question: When will the report the conferees on the FY 1995 Interior Appropriations bill requested on aspects of relevancy, competition, and integration of the Water Resources Research Institutes Program be submitted?

Answer: Because the President's FY 1996 budget requests no funding for this program, we did not submit with the budget the requested report describing proposed options to integrate the Institutes into the water resources programs of the Department and other Federal agencies, and to introduce competition into the distribution of Federal funds among the Institutes.

QUESTIONS SUBMITTED BY SENATOR PATRICK LEAHY

Mr. Chairman, thank you for scheduling this hearing this morning. I appreciate the opportunity to review the budgets of agencies and programs funded through the Interior and Related Agencies Appropriations bill.

I have heard that there are a few people around who propose to slash the United States Geological Survey budget, largely because they do not have a full understanding of the long-term services and data that USGS has provided to our country. If John Wesley Powell were alive today to advocate the USGS mission and share the records of its accomplishments, I am sure Congress would have as vivid understanding of USGS's vital role as it did decades ago.

The USGS is an important neighbor in Vermont for a variety of reasons. USGS data has helped us track toxins in sport fish, manage flooding during ice-out and throughout the year, and helped us compile geographic data to move forward on Lake Champlain cleanup efforts. We have made tremendous progress cleaning up Lake Champlain including an 80% reduction of pollution from point sources.

I want to commend the USGS and Mr. Gordon P. Eaton for your role in the success of the Lake Champlain Basin Program. It is important that the USGS stick with the ecosystem team of Federal, State, and local partners who are doing outstanding work in the watershed. I have four questions for the record that I want to submit.

Question: I have been assured that funding for the USGS monitoring stations on Lake Champlain directed in the Lake Champlain Special Designation Act will continue and has been included in the President's fiscal 1996 request. Is my understanding correct?

Answer: Yes, USGS plans to continue its monitoring on Lake Champlain. Funding for this effort has been included in the President's Budget Request for FY 1996.

Question: Also, on a related matter, it has come to my attention that due to budget reductions in the State of New York, some Lake Champlain monitoring stations which have been cooperatively funded for several years are slated to be closed. It is my view that the USGS and the States of New York and Vermont should review the status of all stations in the Champlain Basin to determine which stations are most critical for the data base. We have to avoid creating unnecessary gaps in data. Can I have an assurance that the USGS will address this situation with the States?

Answer: When USGS became aware that the State of New York was planning to discontinue funding for some of the Lake Champlain gages, we notified both the Lake Champlain Management Conference (LCMC) and the U.S. Environmental Protection Agency, which provides funding for LCMC; however, no one offered to pick up the funding for the stations being discontinued. Two of the gages were discontinued briefly, but USGS proposed to LCMC that we could fund the two gages if they wanted to put higher priority on the gages than on the Geographic Information System work USGS is doing in this area. LCMC agreed that this was a fair solution, and the gages are back in operation. In anticipation of Federal and State budgets that continue to shrink, USGS has been cooperating with officials in both New York and Vermont to review all the gaging stations in the basin, in an effort to determine which ones are most vital to the overall network.

Question: Finally, I note that the Administration has once again eliminated the Water Institutes Program. The Committee is aware that the Institutes leverage \$11 for every federal dollar to do specific applications of water management technologies and to collaborate with other Institutes. How can States continue to meet water supply and treatment challenges and solve problems in a collaborative process if the Institutes are eliminated?

Answer: The Administration is proposing to eliminate the Federal funding for the Institutes, not the Institutes themselves. Currently, Federal funding amounts to less than 10 percent of total funding for Institutes. The Institutes Program provides a valuable education service to their States. If some of the Institutes do not survive the loss of Federal funding, USGS could not fully fill the gap. However, USGS is involved in providing training and work experience to earth science students across the country, independent of the Institutes Program. A long-standing cooperative education program and a new student internship program enable students to fulfill their university educational requirements while working side by side with USGS scientists and technicians on projects dealing with a wide range of water-resources issues. In 1994, more than 700 college students worked on USGS projects and were supported financially with project funds; we expect this number to increase significantly. This combination of classroom work, coupled with mentored on-the-job training is excellent preparation of new researchers in the earth sciences.

Question: The USGS has prioritized the Connecticut River watershed in its National Water-Quality Assessment Program. The Connecticut River forms the backbone of New England and is an important resource from the headwaters in northern New Hampshire and the Northeast Kingdom of Vermont to the beaches of Long Island Sound. I think it is very important that this collaborative effort between USGS and its partners continue. Can you give me an update of the status on this effort?

Answer: The Connecticut, Housatonic, and Thames River Basins NAWQA project is located in central New England and covers most of Connecticut, western Massachusetts, western New Hampshire, and eastern Vermont. The project began in 1991, first completed 2 years of planning and review of existing water-quality information, and now is in its third year of intensive sampling activities. Project staff includes six hydrologists, a biologist, seven technicians, and a GIS (Geographic Information System) expert. These USGS and contract employees are located at the USGS offices in Marlborough, Massachusetts, and Hartford, Connecticut. The project will complete its intensive sampling in FY 1995, at which time funding and staff will decrease. Staff will be interpreting data and writing reports in FY 1996 and 1997. A low level of monitoring activity is continued between FY 1996 and

2001, when intensive sampling will begin again; this follows the cyclical NAWQA pattern of project funding.

Results from the Connecticut River NAWQA project have both confirmed existing perceptions of the water-quality patterns in the area, and added new information. Examples include the confirmation, and quantification, of the increased nutrient (nitrogen and phosphorus compounds) loads exported from river basins that have high population densities; the nutrient loading information is of great interest to water managers dealing with low oxygen conditions in Long Island Sound. An example of new information is the discovery of a high number of detections (37 percent) of MTBE (an oxygenated gasoline additive) in shallow sand and gravel aquifers in the urban areas of the project. This is an unusually high number of detections, and although the detected concentrations are low (2.3 parts per billion or less), the relatively short time that the compound has been in widespread use would indicate continued sampling for this compound is warranted.

These types of information, along with contaminant levels in fish and river bed sediments, have generated keen interest from State Departments of Environmental Protection and Public Health. The primary means of communication with these groups is through the liaison committee meetings and mailings; these committee meetings have typically been held every 6 months, and the project sends fact sheets and reports out to this group periodically. Data and reports are also being made available over Internet as they are approved.

As the project moves into its low-level phase in FY 1996, it is expected that periodic sampling will continue at about four of the stream sites, several wells will be resampled, and biological communities will be assessed at some locations. These low-level monitoring data will contribute to the evaluation of water-quality trends for the study area. During this time, project staff will meet with liaison committee members about once per year.

SUBCOMMITTEE RECESS

Senator GORTON. I thank you very much. The subcommittee will stand in recess until 9:30 a.m., Wednesday, March 15, when we will receive testimony from the Smithsonian Institution.

[Whereupon, at 11:10 a.m., Wednesday, March 8, the subcommittee was recessed, to reconvene at 9:30 a.m., Wednesday, March 15.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

WEDNESDAY, MARCH 15, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:30 a.m., in room SD-116, Dirksen Senate Office Building, Hon. Slade Gorton (chairman) presiding.

Present: Senators Gorton, Stevens, and Cochran.

Also present: Senator Inouye.

SMITHSONIAN INSTITUTION

STATEMENT OF I. MICHAEL HEYMAN, SECRETARY

ACCOMPANIED BY:

CONSTANCE B. NEWMAN, UNDER SECRETARY

ROBERT S. HOFFMANN, PROVOST

NANCY D. SUTTENFIELD, ASSISTANT SECRETARY FOR FINANCE
AND ADMINISTRATION

L. CAROLE WHARTON, DIRECTOR, OFFICE OF PLANNING, MANAGEMENT AND BUDGET

ROBERT P. DILLMAN, ACTING DIRECTOR, OFFICE OF FACILITIES
SERVICES

MICHAEL H. ROBINSON, DIRECTOR, NATIONAL ZOOLOGICAL PARK
MAXINE SINGER, CHAIR, COMMISSION ON THE FUTURE OF THE
SMITHSONIAN INSTITUTION

BUDGET REQUEST

Senator GORTON. It is 9:30 a.m.; we will get started. This is a hearing of the Subcommittee of the Interior and Related Agencies, with respect to the Smithsonian Institution.

We have the budget figures in front of us, of course, and a series of questions. But I want to let you, Secretary Heyman, start this out with whatever introductions you would like to make, and set forth into the opening statement as you would like to communicate with us all.

INTRODUCTION OF ASSOCIATES

Mr. HEYMAN. Thank you very much, Senator Gorton.

Let me introduce most principally Connie Newman, who is the Under Secretary, sitting to my right, and Bob Hoffmann, who is sitting to my left.

Then there are others from our staff who are here and can answer questions: Carole Wharton, who is the Director of the Office of Planning, Management and Budget, and Nancy Suttentfield, who is the Assistant Secretary for Finance and Administration, Robert Dillman, who is the Acting Director for the Office of Facilities Services, and Michael Robinson, who is the Director of the National Zoological Park.

I would also like to introduce Maxine Singer, who is the chair of the Commission that has been looking at the future of the Smithsonian, and has been doing yeoman's work for us.

SUMMARY STATEMENT OF MICHAEL HEYMAN

I would like to start out talking briefly about the Smithsonian in general. Really, this probably is just a reminder to many, but the Smithsonian started in 1846 as a trust instrumentality of the United States.

As you know, it is run by a Board of Regents. It has eight members from the three branches of Government, three each from the Senate and from the House, the Chief Justice, and the Vice President.

And then it has nine citizen regents; whose nominations are confirmed by the Congress, or must be confirmed by the Congress for them to serve.

The Board chooses the Secretary; it is a rather unique organization. It is much like that of a State university. It has provided a due measure of independence for the Institution, while simultaneously providing very close relationships with the Federal Government.

Its original charter is very broad, as laid down by James Smithson, the original donor, creating an institution devoted to the increase and diffusion of knowledge. The Board of Regents has taken both of these missions seriously.

Thus, increase of knowledge has occurred through a lot of quite exemplary research, especially in astronomy and astrophysics, in biology, in art, in history, and in technology, and diffusion has largely been through museum exhibitions, associate programs, and publications.

We have art museums and galleries, including American arts and crafts, African art, American portraits, contemporary art, and oriental art. We also have important museums devoted to air and space, American history, natural history, and the American Indian.

It is really an enormous undertaking. That whole complex provides opportunities to many visitors, over 28 million a year. This figure reflects, obviously, repeats of local people, but it also reflects visitors from all over the United States and elsewhere.

We had an economic impact study done for the Smithsonian by an independent expert from George Washington University.

By doing some polling, it was estimated that nonbusiness visitors to Washington spend nearly 60 percent of their daytime hours at the Smithsonian during their time here. So it has a big impact on visitors in the metropolitan area itself.

The heart of both of our enterprises, research and diffusion, depends on the scope and maintenance of our collections: paintings, sculptures, graphics, industrial machines, airplanes, space vehicles,

systematic groupings of flora and fauna—that is probably the best collection of specimens of that type in the world—and cultural objects and the like.

We are a somewhat unique Federal entity, because we rely for 28 percent of our operating expenditures on funds not appropriated to us.

We receive income from our endowment—our endowment is about \$400 million—from various enterprises such as shops, magazines, product licensing, and from fundraising primarily to support research and exhibitions.

We well recognize the need to increase these funds in the future. As I said in my installation speech 6 months ago, and I have reiterated often, we have to push this proportion up, and we have to do more with fundraising than we have, although we have had a very good start. This quarter, for instance, we raised something like \$33 million.

Senator GORTON. Has your income from those other sources, as a share of what you spent, increased over a 10-, 20-, or 30-year period, or decreased?

Mr. HEYMAN. It has decreased. It has decreased for two reasons: One, that Federal appropriations have been ample, at least in the past, and, two, it has decreased recently, primarily because the Smithsonian magazine is not netting nearly as much as it did before.

The readership has stayed constant, but we have not increased price enough in relationship to the cost, because both printing and paper costs have gone up, and advertising rates have gone down, although not the sum of advertising that we have.

Senator GORTON. OK. Go ahead.

SALARIES AND EXPENSES

Mr. HEYMAN. The lion's share of our Federal appropriation is for salaries and expenses. In fiscal year 1994, that was about 88 percent of our Federal appropriation. Of course, that fluctuates in relation to appropriations for construction.

In the recent rescission action, the House took \$32 million out of our fiscal year 1995 appropriation. That represents a good portion of the construction budget, and 8.6 percent of our whole 1995 appropriation.

The funds deleted related to requests in our submission for 1996 which are before you. If the past action presages the future, the House will zero out two major activities, which I think will be very unwise. I hope that the Senate will act otherwise. I want to talk about those a little bit.

First are the planned local facilities of the National Museum of the American Indian. I believe that the Congress, as well as the Smithsonian, is under at least a moral obligation, if not a legal obligation, to proceed with planned construction, and I will tell you why.

The museum facilities are largely a creature of congressional initiative. The main objective of its creation was the preservation and provision of public access to an extraordinary collection of over 1 million American Indian artifacts, which were collected in the late 19th and early 20th centuries by a man named Gustav Heye.

This is reputed to be the best collection in the world, and it is being housed presently in the Bronx in New York, under quite awful conditions. We have photographs here that perhaps we will share with you later, if you wish, that show you how this is being presently housed.

The Heye collection was under the jurisdiction of the Heye Foundation in New York. For various reasons, that foundation came on hard times, and the Smithsonian was approached to take over the collection.

Multiple parties were involved, including the attorney general of the State of New York—who resisted moving the collections elsewhere—the trustees of the Heye Foundation, representatives from American Indian communities, political leaders, such as Senator Inouye, and, of course, the Smithsonian.

I think it is fair to say that—you were there and I was not at the time—but I think it is fair to say that the Board of Regents was reluctant to undertake the financial responsibilities entailed unless Congress passed appropriate legislation directing the Smithsonian to establish the museum and promising to support it.

As the result of all of this, agreements were struck, and statutes passed, and judicial decrees rendered, mainly in 1989.

We agreed with the Heye Foundation and the other stakeholders to accept the collection and house it in a museum on The Mall, a branch in New York, and a state-of-the-art collection and conservation facility, to which the Heye collection could be moved and preserved and taken out of danger. But our agreement was conditioned on the passage of relevant legislation.

The relevant legislation was passed in 1989, and it comprises 20 U.S.C., section 80(q), some 20 pages of provisions, which, among other matters, directs the Regents to construct the three facilities in question with a net square footage of no less than 400,000 square feet, creates a board of trustees under the Regents made up largely of American Indians, and provides that The Mall museum will be financed no more than two-thirds by Federal appropriations.

The idea was that the Smithsonian would raise the balance. In addition, there was a New York court decree confirming the arrangement and permitting the collection to be moved, in view of the guarantees in the statute.

A variety of events have occurred since 1989. First, the branch museum in New York was established in the refurbished customhouse in Lower Manhattan. It was financed by the Federal Government, the State of New York, and New York City, in accordance with the directions of the Federal statute.

Second, the Smithsonian has organized a major fundraising campaign for the National Museum of the American Indian. It has already raised in cash and pledges over \$26 million toward the goal of \$35.5 million to be applied to The Mall museum, one-third of its projected cost.

It has enrolled over 72,000 members of the museum, who hopefully will continue annual support. The total campaign goal is \$60 million, with some \$25 million to go to an endowment, the income of which is to support outreach activities in the Indian communities around the country.

The basis of this campaign has been the plan that is contained in the Federal statute: a Mall museum, a branch in New York, and a state-of-the-art collection and conservation facility adequate to house the Heye collection, independent of other collections of the Smithsonian Institution.

It is in light of the foregoing that we view the rescission action and the potential desertion of the two museums of the American Indian facilities with such alarm.

If this occurs, we will have broken our collective promise to the American Indian community. And we will have undermined the confidence we have so carefully nurtured in the donor community, to which we must turn increasingly, as I indicated, for support as Federal funding becomes less available.

This is a very large priority for me—the fundraising campaigns that have been undertaken and we shall extend—and it was something in my last job, an administrative job at the University of California, where we had quite a successful fundraising activity. I think we can do the same in enlarging that which the Smithsonian does.

I want to turn very briefly to the second major activity, which involves the Air and Space Museum extension at Dulles. You know that we have run out of space to exhibit planes, space vehicles, and other objects in the existing museum. Also, very large objects, like the Enola Gay, cannot fit into the present museum.

In addition, we need expansion of facilities for storage and restoration presently located in Suitland. The plan that was accepted by Congress is to create a substantial extension at the Dulles Airport.

Reality, however, indicated that the Federal Government cannot fund the \$160 million or so that will be needed to create that extension.

At least two other sources are necessary. One source is the Commonwealth of Virginia, which aggressively supported the extension's location in Virginia. The Commonwealth has promised infrastructure investments for roads and the like, about \$40 million worth.

My understanding is that the money is there, and the question is: Will it go in priority order to this undertaking? My understanding is it will, if we move.

The second source is the issuance of \$100 million in bonds, bonds which, of course, we are going to have to repay out of the proceeds of the development, and an interest-free loan to finance a study to determine the best ways to attract private sector involvement.

The Federal investment in this undertaking was authorized at \$8 million. That is for planning and design. The House rescinded the first \$4 million, which was contained in the 1995 appropriation. The budget request for this year is \$2 million, and there was to be \$2 million again next year.

This arrangement builds upon the shared funding formula, the same kind of a formula that was used for the American Indian Museum, but it goes much further in seeking to leverage a very large non-Federal investment with a relatively smaller Federal one.

PREPARED STATEMENT

I urge that even if there is a rescission and the rescission is not restored, the appropriation of \$2 million requested in the 1996 budget be approved, because that will let us accompany the study of ways to attract private investment with enough preliminary design to make the inquiries realistic.

Senator, that is the statement I wish to make. There is more contained in the one that has been filed with the committee.

I stand ready to answer any questions you might have.

[The statement follows:]

PREPARED STATEMENT OF I. MICHAEL HEYMAN

Good morning Mr. Chairman and members of the committee. I am pleased to appear before the committee today for the first time since assuming my role as Secretary in September of last year. I entered the office of Secretary with great enthusiasm for this extraordinary Institution and I can honestly say that my first five months have been more than challenging.

The Smithsonian is a unique and dynamic institution which belongs to the citizens of the United States. Each secretarial era reflects unique circumstances and poses its own opportunities and problems. When I was selected for the position of Secretary, I began to explore in detail the opportunities and problems facing the Institution and how I could best address these issues during my tenure. I identified four areas where I believe I should focus my energies in the coming years. To address these issues, I first implemented a reorganization which included the creation of a provost to oversee all programmatic areas. This will allow me to more actively and effectively manage the Institution as a whole and ensure a greater level of oversight and accountability over the diverse components which make up the Smithsonian.

The greatest challenge presently facing the Institution, along with the rest of the Federal establishment, is the constraint on resources. In the past, the Smithsonian could count on increased resources from Congress and the Executive Branch in discharging its mission. Those times are past and if the Institution is to continue as one of the world's premier cultural and scientific institutions, it must begin to rely more heavily on private support from individuals and corporations. A systematic effort to increase private support started very well under my predecessor and I intend to accelerate this initiative as quickly and effectively as possible.

This new era also demands from public, as well as private, organizations increased fiscal accountability. We must use our resources efficiently and intelligently both to husband them and to underscore our credibility to those who provide them—the government and our donors. I believe that frugality also has a positive side. For example, it will require us to agree more specifically than in the past on the dimensions of our mission.

Second, we must take a hard look at the role of the Smithsonian as the nation's museum and at the goals of our exhibitions and public programming. As you are all too well aware, we have suffered through the long controversy surrounding the National Air and Space Museum's proposed exhibition which included a portion of the Enola Gay. There were mistakes made in the development of this exhibition which, in the end, made its presentation doomed to failure. This, and a small number of exhibitions over the past few years, have raised important questions concerning the Institution's responsibilities in presenting historical and analytical treatments to the public. Even before I made my decision to replace the original Enola Gay exhibition with a scaled-down display, I announced that we would undertake an assessment and review of the processes and criteria used in determining what subjects to cover and how they are to be addressed. I expect this review to be completed later this year and that it might well call for the establishment of guidelines to be used across the Institution regarding exhibitions and public programs. I will gladly report back to the committee with the results of this review and on those steps I plan to take in response to it.

Third, I am committed to developing, across the Institution, the ability to make our collections and information available to the public through technology. With the great advances in information technology during the past decade, we now have the opportunity to take our collections, via electronic media, to virtually every city and town in the nation, and ultimately, to almost every household. I have made this a priority of my tenure.

Within a few months the Smithsonian will go on-line on the Internet with a full and constantly updated information service with "home-pages" for our museums and research centers. This will become a Smithsonian without walls, bringing our vast resources home to Americans and offering a perennial field trip for students, young and old. This reach should increase considerably in the near future as the private sector merges means of communication and provides access to "ordinary" homes throughout the country.

I am told that one day soon emerging technologies will allow on-line visitors to look at 3-D images and, in essence, to "hold" an item in their hands, turning it through all its dimensions. We have already made plans to open a trial 3-D digitizing lab at the National Zoo to test the possibilities for the entire Smithsonian. I am excited by what this technology can mean to us in extending the reach of our historic mission—the "increase and diffusion of knowledge." At the heart of the information revolution is something far more than an advance in technology; it is the fulfilling of one central promise of democracy: to make knowledge available to as many citizens as possible, and to allow that access to be shaped by their needs. I see it as James Smithson's mandate reborn for a new century and a new generation of Americans.

On-line exhibitions can do things we cannot do through conventional means. Take, for example, the major exhibition *Ocean Planet*," which will open at the Museum of Natural History in April before going off on a national tour. I am sure that no one who actually visits the exhibition will easily forget the experience. It is state of the art in the presentation of important questions regarding the health of the Earth's oceans. Noteworthy, however, is that this is the first exhibition that we are developing in parallel form on-lined in collaboration with scientists from NASA. That prototype will be available over the Internet. The on-line version will feature an interactive floor plan of the exhibit and will incorporate all of its elements. Its "resource room" will provide an interactive bulletin board and instantaneous connections to many sources of oceanographic information available on the Internet. It will feature a variety of special programs, including discussion sessions, demonstrations, curricula for elementary and high school courses, and meet-the-curators opportunities in real time.

New information technologies will also greatly enhance the benefits of our research programs. For instance, we are putting in digital form systematic collections of biological information in the National Museum of Natural History which can be shared among scientific researchers worldwide. Access to this information and these collections will not require a special trip to Washington in order to undertake or continue research activities.

Hence, greater access to our-collections through advanced technologies will make a trip to the Smithsonian as easy as turning on a personal computer. The potential benefits of this electronic outreach to the American public are inestimable.

Finally, we must continue to take care of the most important asset of the Institution—the national collections. Numbering more than 140 million objects, the collections are the foundation for all that the Institution does. From its myriad research programs to the hundreds of exhibitions and public programs we present to the public each year, the collections are what distinguishes the Smithsonian from other educational and cultural institutions. The primary target of increases in our request for this fiscal year is in the management and conservation of the collections. It would be impossible, however, for me to discuss these priorities without first commenting on the recent action taken by the other chamber on fiscal year 1995 rescissions and which is likely to be considered by the Senate.

The rescissions of fiscal year 1995 Smithsonian funds recently approved by the House Appropriations Committee cut right to the heart of our ability to care for the collections. The effect of these rescissions, and their impact on our fiscal year 1996 request, is to allow the collections of the National Museum of the American Indian and the National Air and Space Museum to continue to deteriorate with the potential for permanent damage or loss. In both instances, the need for new storage and conservation space is clearly demonstrable. I would like to discuss each case in some detail.

With regard to the NMAI Suitland collections center, this component is critical to both the preservation of the collection and the success of The Mall Museum. The Smithsonian, after many years of discussion and negotiation, and with the guidance and ultimate direction of Congress, agreed to accept the transfer of the Heye collection—the single largest and most important collection of Native American artifacts in the world—and to take the necessary steps to preserve it. Upon Congressional authorization the Smithsonian entered into a legally binding agreement with the Heye Foundation and the State and City of New York for the construction of three facilities which would comprise the NMAI. One of these facilities, the Suitland Col-

lections Center, would replace the antiquated and wholly substandard Bronx storage facility at which the Heye collection is now housed. Specifically, the legislation authorizing the Suitland facility prohibits any of the Heye collection from being commingled with any existing Smithsonian collections. This is a key provision of the agreement. It is the Smithsonian's obligation to care for this collection. Without the construction of an acceptable facility, we fail to meet this obligation.

Another component of the NMAI legislation is The Mall Museum. As spelled out in the legislation, this facility is a public/private partnership. The Smithsonian is responsible for raising one-third of the costs of this museum from private sources. I am pleased to report that we have already raised \$26.7 million towards the \$36.7 million goal. The pledges—ranging from the 71,000 members of the NMAI national campaign who contribute a minimum of \$20 a year to the \$10 million gift from the Mashantucket Pequot Tribal Nation of Connecticut—have been secured with the expectation that the planning, design and construction of the Museum would proceed in accordance with the legislation. The proposed rescission of fiscal year 1995 planning and design money for this component will result in a delay or possible termination of The Mall Museum and will be viewed by donors and supporters as a broken commitment on the part of Congress and the Federal government. Sadly, one of the best examples of public/private partnership will be seen as a failure at precisely the time we need to demonstrate its potential as a future resource to the Institution.

Finally, the proposed rescission of fiscal year 1995 planning and design money for the NASM extension at Dulles will have two immediate results: placing the collections in jeopardy as they continue to be housed in substandard facilities at our Garber facility; and the likelihood that the significant commitment from the Commonwealth of Virginia which includes infrastructure improvements to the site (estimated at \$30–40 million), a \$3 million dollar interest free loan and the issuance of up to \$100 million in bonding authority, will lapse or be withdrawn. As we have stated on the record, with the exception of the initial planning and design money which totals \$8 million, the funding for the construction of this extension would derive from non-Federal sources. This would seem to be a wise investment on the part of the Federal government in which \$8 million of Federal funds could leverage more than \$100 million of non-Federal funds.

I felt the need to discuss these three projects in some detail as our request for fiscal year 1996 includes funding for all three. It would be a great setback for the Institution if these projects did not move forward and a real impediment to our being able to properly care for the collections.

I am fully aware of the difficult situation which faces this committee specifically, and Congress as a whole. Reductions in the Federal budget now, and in the near future, are a reality. Making decisions about what programs and activities the Federal government should or should not support are difficult indeed.

On this, the eve of the Institution's 150th anniversary, I would like to remind the members of the committee that the Smithsonian Institution was created by Act of Congress and has evolved into a unique and revered institution which represents the best of America and its people. The Smithsonian is the mirror in which we, as Americans, see our history and culture from the past, in the present, and towards the future. I would venture that the vast majority of Americans believe the Federal funds which support the Institution are a worthy and rewarding expenditure of resources that provides direct benefits to all citizens.

I thank you and I would be pleased to answer any questions you may have regarding our fiscal year 1996 request or any other topic.

BIOGRAPHICAL SKETCH OF I. MICHAEL HEYMAN

I. Michael Heyman, a law professor and former chancellor of the University of California at Berkeley, and most recently counselor to the Secretary of the Interior and Deputy Assistant Secretary for Policy, is the tenth secretary of the Smithsonian Institution. As the Smithsonian's chief executive officer, he heads a complex of 17 museums and galleries and the National Zoological Park, as well as scientific and cultural research facilities in 10 states and the Republic of Panama.

Secretary Heyman assumed the Smithsonian position on September 19, 1994. He began his career at the University of California at Berkeley in 1959 as an acting professor of law and became a full professor in 1961. He was named professor of law and city and regional planning in 1966. His distinguished teaching career has included service as a visiting professor of law at Yale (1963–1964) and at Stanford (1971–1972).

Heyman became vice chancellor of Berkeley in 1974 and served as chancellor from 1980 to 1990. A strong leader and active fund raiser, he strengthened the university's biosciences departments and successfully promoted ethnic diversification of the undergraduate student body while maintaining high academic standards. The university maintains several large museums, including the University Art Museum, the Lowie Museum of Anthropology, and the Lawrence Hall of Science, and Heyman actively participated in their supervision while chancellor. After stepping down as chancellor in 1990, he was named Selvin professor of law and professor of city planning at Berkeley.

Most recently, Heyman has been counselor to Secretary of the Interior Bruce Babbitt as well as deputy assistant secretary for policy at Interior (1993-1994). He is a member of the state bars of California and New York.

Born on May 30, 1930, in New York City, Heyman attended P.S. 9, Junior High 118, the Bronx High School of Science (one year) and Horace Mann High School, where he played football. He was educated at Dartmouth College, earning a bachelor's degree in government in 1951.

After a year in Washington as legislative assistant to Sen. Irving M. Ives of New York, he served as an officer in the United States Marine Corps, as a first lieutenant on active duty from 1951 to 1953, and as a Captain in the reserves from 1953 to 1958. Heyman received his Doctor of Laws in 1956 from Yale University Law School, where he was editor of the Yale Law Journal. He was an associate with the firm of Carter, Ledyard and Milburn in New York City from 1956 to 1957, and was chief law clerk to Chief Justice Earl Warren from 1958 to 1959.

Heyman's expertise goes well beyond the legal field. His interests include civil rights, constitutional law, land planning, metropolitan government, housing, environmental law and management, public-land law, and affirmative action, and he is the author of many journal articles and papers on these subjects.

Over the years, Heyman has served on or chaired numerous boards and commissions, including almost four years as a member of the Smithsonian's Board of Regents (1990-1994). He has dedicated more than a decade of service to his alma mater Dartmouth as a member of its board of trustees from 1982 to 1993 and as chairman of the board from 1991 to 1993. Heyman also has been a member of the board of trustees of the Lawyers' Committee for Civil Rights under Law since 1977.

He was the secretary for the California Advisory Committee of the U.S. Commission on Civil Rights (1962-1967), and chairman of the City of Berkeley Human Relations and Welfare Commission (1966-1968). He was counsel to the Task Force on Demonstration and Protest of the President's Commission on Violence (1968-1969). He served on the board of directors of the Pacific Gas and Electric Co. (1985-1993) and the board of directors of the American Council on Education (1984-1985). He chaired the executive committee of the National Association of State Universities and Land-Grant Colleges in 1986.

He was Division I Subcommittee Chairman of the National Collegiate Athletic Association Presidents' Commission (1986-1988) and chairman of the Bay Vision 2020 Commission (1989-1993).

Heyman has served as a consultant to the Virgin Islands Planning Office (1975-1976), the Government of American Samoa (1973-1974), the County of Kauai, Hawaii (1972-1973), the Tahoe Regional Planning Agency (1970-1975), and the San Francisco Bay Conservation and Development Commission (1968-1970). He advised the University of Hawaii on the creation of a law school (1971-1972); analyzed the land-planning systems of the Bureau of Land Management, the Forest Service and the National Park Service (1967-1969); and prepared a report for the Department of Health, Education and Welfare on race and education at Berkeley (1964-1965).

He was awarded The Koret Israel Prize in 1989 and was made a Chevalier de la Legion D'Honneur by the French government in 1985. He has received honorary degrees from the State University of New York (1990), The University of Maryland (1986), The Hebrew Union College-Jewish Institute of Religion (1984), and the University of the Pacific (1981).

Heyman is married to Therese Thau Heyman, senior curator on leave from the Oakland Museum in California. Their son, James, is a physicist and teacher.

BIOGRAPHICAL SKETCH OF CONSTANCE BERRY NEWMAN

Constance Berry Newman became Under Secretary of the Smithsonian Institution in July, 1992. She was Director of the Office of Personnel Management from June, 1989 to June, 1992. For more than 20 years' she managed public and private organizations. Among her major management positions were: Assistant Secretary of the United States Department of Housing and Urban Development, Director of VISTA,

and President of the Newman & Hermanson Company. She was also Commissioner and Vice-Chairman of the Consumer Product Safety Commission.

From 1987 to 1988, Ms. Newman worked for the Government of Lesotho as a Co-operative Housing Foundation consultant to advise the Ministry of Interior regarding the establishment of a housing corporation to receive World Bank funding.

During her public career which began in 1961, Ms. Newman worked both as a career public servant and a political appointee with four Presidential appointments, three of which were confirmed by the Senate.

Ms. Newman was a Woodrow Wilson Visiting Fellow from 1977 to 1985 and a member of the Adjunct Faculty at the Kennedy School, Harvard University from 1979 to 1982. She has received an Honorary Doctor of Laws from her Alma Mater, Bates College, Amherst College and Central State University. In addition to receiving an A.B. from Bates College, she received a Bachelor of Science in Law degree from the University of Minnesota Law School. In 1985, she received the Secretary of Defense Medal for Outstanding Public Service. At present she serves on the Board of Trustees of The Brookings Institution, the National Academy of Public Administration, and is a member of the Board of Governors of the Center for Creative Leadership. In addition, Ms. Newman is Vice-Chairman of the National Research Council's Board of Testing and Assessment.

BIOGRAPHICAL SKETCH OF ROBERT S. HOFFMANN

Dr. Robert S. Hoffmann, came to the Smithsonian Institution as director of the Smithsonian's National Museum of Natural History in 1986. He became Assistant Secretary for Research on January 1, 1988, and acting Provost of the Smithsonian on October 1, 1994.

Hoffmann is a world authority on the evolution of Holarctic mammals, specializing in the Arctic and mountainous regions of the world, as well as the mammals of the USSR, China, and Central Asia. He is co-author or editor of 10 books and more than 230 scientific papers. His research has included a study of Pleistocene mammals and reflects a broad morphological knowledge of fossil and modern mammals, as well as a grounding in the newer techniques of biochemical systematics and molecular evolution.

Before coming to the Smithsonian, Hoffmann was Summerfield Distinguished Professor of Systematics and Ecology at the University of Kansas. He also served as associate dean of the College of Arts and Sciences for three years (1978-1980 and 1981-1982) and as acting dean for one year (1980-1981). Prior to 1981, Hoffmann served as chairman of the Department of Systematics and Ecology (1969-1972) and as acting chairman of the Division of Biological Sciences (1976-1977). During these years at the University of Kansas, Hoffmann also served as curator of mammals at the university's Museum of Natural History.

Hoffmann was born in Evanston, Illinois, in March, 1929. He received a bachelor's degree in zoology from Utah State University, Logan, in 1950, and earned a master's degree and a doctorate in zoology from the University of California, Berkeley, in 1954 and 1955, respectively. Following his graduate work, Hoffmann spent 13 years at the University of Montana in Missoula as an instructor, assistant professor, associate professor and full professor in the Department of Zoology. In 1988 he was awarded an honorary Doctor of Science from his alma mater, Utah State University.

Hoffmann served on the U.S.-U.S.S.R. Joint Commission on Science Policy of the National Academy of Sciences (NAS) from 1974 to 1982 and on the NAS Advisory Committee on the USSR and Eastern Europe from 1970 to 1975. He has traveled extensively throughout the world and conducted fieldwork in Alaska, Canada, the U.S.S.R. and China, including Tibet. Hoffmann speaks and reads Russian.

Hoffmann is past president and first vice president of the American Society of Mammalogists (ASM). He served on that society's board of directors for 25 years, and was chairman of the ASM Committee on International Relations for 8 years. He served a term as president of the Society of Systematic Zoology, and has served on numerous other advisory committees and organizations. He is a Fellow of the American Association for the Advancement of Science, Honorary Member of the All-Union Theriological Society (U.S.S.R.) and of the Russian Academy of Natural Sciences, and a member of the American Association for Quaternary Research, the Ecological Society of America, and numerous other organizations.

Hoffmann is married to Sally Monson Hoffmann, an independent arts consultant and former education officer with the Spencer Art Museum of the University of Kansas. The Hoffmann's have three grown sons and a daughter.

BIOGRAPHICAL SKETCH OF NANCY D. SUTTENFIELD

Nancy D. Suttentfield was appointed Assistant Secretary for Finance and Administration of the Smithsonian Institution in 1990. In this capacity, she serves as the Chief Financial Officer and oversees the Institution's various financial, administrative, and facilities services functions. Prior to her appointment, Ms. Suttentfield served briefly in 1990 as the Institution's Acting Under Secretary. From 1986 to 1990, she also served as the Director of the Smithsonian's Office of Planning and Budget.

Before joining the Smithsonian Institution, from 1973 to 1986 Ms. Suttentfield held a series of public finance and management positions for agencies of the Commonwealth of Virginia. In her last state government position, she served as Budget Manager for Education at the Virginia Department of Planning and Budget, where she had lead responsibility for policy/program analyses and budget formulation for 17 institutions of higher education, 23 community colleges, three teaching hospitals, 140 local school divisions, and several museums and cultural agencies.

Ms. Suttentfield received a B.S. degree in mathematics from Indiana University of Pennsylvania, and a M.A. degree in economics from Virginia Commonwealth University.

BIOGRAPHICAL SKETCH OF L. CAROLE WHARTON

L. Carole Wharton joined the Smithsonian Institution in December 1991 as Director of the Office of Planning and Budget. Since late 1993, she has been the Director of the Office of Planning, Management and Budget. Prior to coming to the Smithsonian, she held various administrative and faculty positions at both public and private colleges and universities. Her major administrative assignments have included the Chief Planning Officer at Drexel University in Philadelphia; Director of Capital Planning, University of Maryland; Assistant Dean of Academic Development, St. Mary's College of Maryland; Dean of Students, Webster College, Washington, D.C. In addition, she was Assistant Professor of English at Columbus College, Columbus, Georgia.

She holds a B.A. in English and history from Emory and Henry College; an M.A. in English from Florida State University; and an Ed.D. in Higher Education Administration with supporting fields in Adult Education and Arts Management from The George Washington University in Washington, D.C., where she was a U.S. Office of Education Fellow.

She has been active in national planning organizations and has written articles on the subject of planning and resource allocation. She has served as national program chair for, and as a board member of, the Society of College and University Planning, and is currently on the editorial board of the journal, *Planning for Higher Education*.

BIOGRAPHICAL SKETCH OF ROBERT P. DILLMAN, P.E.

Mr. Dillman has about thirty years of experience in all aspects of facilities management from design and construction of new facilities to operation and maintenance of existing. His experience was gained working many different places in the United States, as well as in Europe, Africa, Central America, Southeast Asia and Antarctica.

He is a registered professional engineer with degrees in civil engineering and nuclear engineering from the University of Pennsylvania and the Pennsylvania State University respectively. He is also a graduate of the Harvard Business School.

He was selected Director of Design and Construction at the Smithsonian in 1990, and in December 1994 was named Acting Director of Facilities Services, following the resignation of Richard L. Siegle.

As Acting Director of Facilities Services for the Smithsonian Institution, he is responsible for the planning, design, construction, maintenance, security, safety, architectural history and historic preservation of the facilities which protect the Nation's collections and which are historic monumental structures themselves.

BIOGRAPHICAL SKETCH OF MICHAEL H. ROBINSON

Michael H. Robinson, Director of the Smithsonian Institution's National Zoological Park, is an animal behaviorist and a tropical biologist. Immediately prior to his appointment to the National Zoo in May 1984, Dr. Robinson served as Acting Director

and Deputy Director of the Smithsonian Tropical Research Institute in Panama, which institution he joined in 1966 as a tropical biologist. He received his Doctor of Philosophy from Oxford University after being awarded his Bachelor of Science, Summa Cum Laude, from the University of Wales. His scientific interests include predator-prey inter-actions, evolution of adaptations, tropical biology, courtship and mating behavior, and freshwater biology. He is the author of more than 130 scientific papers and articles including a book on the courtship and mating behavior of spiders.

Senator GORTON. Senator Stevens, I will defer to you to ask any questions or make any comments, if you would like.

Senator STEVENS. No; I do not have any questions this morning, Senator. Thank you very much.

Senator GORTON. OK.

Senator Inouye.

STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. Mr. Chairman, thank you very much for granting me this opportunity. I am really not a member of this subcommittee, but I feel so close to this project, as you are well aware, that I wanted to say a few words on behalf of it.

First, I would like you to forgive me because my voice is not up to par. I am under medication right now. I have a common ailment that I presume some of you have, an inner ear infection that causes vertigo and all that nonsense. So I am under medication to keep me level. [Laughter.]

So at this moment, I am level, and I hope I can remain that way throughout this.

NATIVE AMERICAN MONUMENTS IN WASHINGTON, DC

Mr. Chairman, when I became chairman of the Indian Affairs Committee about 7 or 8 years ago, I must confess that I knew very little about native Americans.

But I have been a citizen of this city now for nearly 35 years. In addition to that, I spent 2 years in law school in this town.

One thing that has always fascinated me is all of the statues throughout the city. Believe it or not, there are over 300 statues in this little city. And of all the statues, there is not a single one of a native American.

One would think that there should be one of Sequoia, or Tecumseh, or maybe Crazy Horse, or Sitting Bull. There are none, and I thought to myself, now, that is really strange that we honor everyone but the first citizen of this land.

And then it occurred to me that when one considers all of the stereotyping that you find in this land, that it was not quite fair to the young Indian child going through life not knowing about himself.

So this idea of a museum came about, someplace where the young Indian child can go and see what his ancestors have done. And maybe the non-Indian can do the same thing and see what the Indians have done. But there is no museum to speak of.

STORAGE CONDITIONS OF THE HEYE COLLECTION

Then one day I was called by a dear friend of mine, and he said: "Why not go to the Bronx? There is a warehouse there."

So I went to the Bronx and what I saw there was just unbelievable, nearly 1 million Indian artifacts. But then when I left the place, I felt nauseated; to think that here was a collection, priceless, on the verge of deterioration.

The rooms were not properly dehumidified. They were not insect proof. If you can imagine a room this size, with hundreds of buffalo robes—any one of them would be a prime exhibit in any museum, but hundreds of them. But they were hanging up like some dry cleaning plant, with plastic covers.

And there was a rifle that President Grant had presented to Sitting Bull. It was laying on top of a file cabinet. And that is the way it was.

So I thought it was an obscenity to have something like this, and thus began this movement.

And as the Secretary pointed out, it involved not just the New York delegation, but the New York City government, the State government. A memorandum of understanding was filed. We had to go to court.

From the standpoint of moneys, because that is our prime concern here, the Federal Government has already invested over \$90 million; \$90 million have been appropriated, and the Smithsonian, from your trust fund, you have already spent about \$1.5 million.

And a slight correction, sir, of the \$35 million that the law said you must raise from private sources, we have already raised, or received pledges exceeding \$32 million. We are ahead of schedule, in other words.

Some have suggested, "Well, you can always build a museum and put the items in either New York or in The Mall museum."

I am not a curator. What little I know about museums is the experience I had from this enterprise. Most museums will display no more than 5 or 10 percent of their collection, unless you want to make it look like Wal-Mart.

PROPOSED SUITLAND FACILITY TO HOUSE HEYE COLLECTION

So this museum, I suppose, would exhibit about 10 percent of the collection at any one time. You need someplace to store the remaining 90 percent. This is where the Suitland facility comes in.

Without the Suitland facility, this whole enterprise would just collapse. We have no place to put the collection. This would be the central facility for planning and staging all of these exhibits that would go countrywide.

And so if there is a step that is absolutely essential in the development of this museum, I would say Suitland is the one. And to stop at this point would mean not any savings, because I can see a few law suits down the line. I would hate to have the United States dragged into court.

There is another little tiny legal matter, because it has been said that, "Well, why not return the collection?"

When all of this was concluded, the law was passed, and the Smithsonian was directed to fulfill its responsibilities under the act, and New York State signed on the dotted line, and the city of New York did the same thing, the board of the trustees of the Heye Foundation met and said, "We are finished," and they dissolved—the Heye Foundation is no longer in existence.

There is really no legal repository to which this collection can be returned.

So Mr. Chairman, from the standpoint of the law and the money, and equally as important, if not more important, from the standpoint of a long-held obligation, which I feel we have with the first Americans, we should support this museum. We should not rescind these moneys.

I thank you very much for your indulgence.

Senator GORTON. Well, you have proven once again how dedicated you are to this, and not at all incidentally, how responsible you are for the progress which has taken place so far.

We are going to look around and see if there is not a way we can get at least some of this back.

Senator INOUE. I am certain we can do that, because among the many coauthors of the measure, the chairman of the subcommittee is one, and he always stands for his bill.

Senator GORTON. Thank you, Senator. I appreciate it.

Senator INOUE. May I be excused?

Senator GORTON. Yes.

Senator COCHRAN. Mr. Chairman, may I just ask unanimous consent to put in a statement for the record? I wish I could stay for the balance of this hearing.

Senator GORTON. First, the statement will be included, and second, I will defer to you now if you have a question or two.

Senator COCHRAN. Well, I do not. My only question is how we can go to all these meetings we are supposed to go to?

Senator GORTON. If my memory serves me correctly, you are supposed to be presiding in one right now.

Senator COCHRAN. I am supposed to be presiding. Yes.

Senator GORTON. That is on my schedule, too, today.

Senator COCHRAN. I wish I could stay here to listen to Secretary Heyman, and Constance, and all the others who are here.

Mr. HEYMAN. The loyalty of my Regent. [Laughter.]

Senator GORTON. The statement will be included in the record.

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Senator COCHRAN. Thank you, Mr. Chairman.

Senator GORTON. Thank you.

[The statement follows:]

PREPARED STATEMENT OF SENATOR THAD COCHRAN

Mr. Chairman, although I must preside at another hearing at 10 o'clock, I wanted to stop by to welcome Secretary Heyman, and the other witnesses who are here to discuss the budget request of the Smithsonian Institution. As a recently appointed Smithsonian Regent, I am especially interested in the testimony of these witnesses.

The Smithsonian is an independent trust instrumentality of the United States that is dedicated to the high goal of the "increase and diffusion of knowledge." As we Americans proudly note, it is the largest Institution of its kind, and nearly 29 million people annually visit its 16 museums and galleries and National Zoo. The arts, history, technology, and science are represented in its exhibits through the conduct of research, publication of studies, and participation in cooperative international programs of scholarly exchange.

As we move toward the Smithsonian's sesquicentennial in 1996, I am sure we all want to pay careful attention to the work of this very important national Institution and support its service to the Nation and to the world.

NATIONAL AIR AND SPACE MUSEUM EXTENSION

Senator GORTON. Let me start by asking about the last question that you raised concerning the \$4 million rescission for air and space, and the desire to keep going ahead with \$2 million. I take it that none of that \$4 million has been expended?

Mr. HEYMAN. No, No; none of it has been expended.

Senator GORTON. What was your time line, and the breakdown of the use for the \$8 million that you expected over a 3-year period?

Mr. HEYMAN. I am going to defer to the Under Secretary.

Ms. NEWMAN. The first amount, the \$3.9 million, was to be used to plan and design the first number of buildings, the hangar with the mezzanine, a building for the public amenities, additional storage space. In other words, we already have a master plan for that whole area.

There were two other major activities that needed to go on. One was the determination of our sources of funds, whether or not you could raise funds, what kind of business activities, what kind of membership program. In order to do that, we were borrowing up to \$3 million, the initial amount was \$500,000, to conduct those studies.

At the same time, we needed to go beyond the master plan and plan and design the individual buildings. The idea was that the first building would be the hangar with the mezzanine that would be available to the public.

Now, what I should do is also ask the man who has been involved in developing the master plan, Bob Dillman. He wants to put a little more detail behind that.

Mr. DILLMAN. We are working on the final pieces of the master plan, and then we will move into the design of the individual buildings. So we are approaching a time where we will start using that \$4 million for design of the actual structures.

The reason that we need the \$2 million in 1996 to carry forward is once we get the design started, to keep it moving forward.

Senator GORTON. Well, I guess my real question is: If the \$4 million rescission went through, but you got \$2 million for fiscal year 1996, you would be using that, Mr. Secretary, for something else other than this preliminary design; you would change the order of the way in which you are spending the money?

Ms. NEWMAN. What we talked about doing is to then break up the project and say that we would then build, first, the hangar with the mezzanine, so that we would—rather than attempt to move in the way of the original schedule, that we would break it out in order to respond to our commitment to Virginia, that the first buildings would be those that the public would have access to.

So the first buildings would be the hangar with the mezzanine and the public amenities.

Senator GORTON. Would \$2 million be sufficient to do the design work?

Ms. NEWMAN. \$2 million would be sufficient, we believe, to design the first building and to begin the second design on the second building.

Senator GORTON. And it would not matter whether that was \$2 million less of a rescission for this year, or a new appropriation of \$2 million for next year.

Ms. NEWMAN. Correct.

CONSTRUCTION COST OF THE NATIONAL MUSEUM OF THE AMERICAN INDIAN

Senator GORTON. On the Indian museum, Mr. Secretary, refresh my memory as to what you believe the total construction cost of those two facilities to be, spread out over how long a period of time?

Mr. HEYMAN. Well, the resources and collection center in Suitland is \$44 million. Some \$6 million has already been expended from prior appropriations. So the design for that is complete.

And we have done some of the site work already with regard to its construction. So the new money that is necessary is approximately \$44 million, and it was planned to be one-half in 1995 and one-half in 1996.

Senator GORTON. And that would be entirely Federal funding?

Mr. HEYMAN. That would be entirely Federal. Then The Mall museum is estimated at \$110 million, one-third of which we would raise the money for—a good portion of that money has been raised or pledged already.

Senator GORTON. Are the two buildings absolutely interdependent? If you had a certain amount, if you had half as much money available over the next 3 or 4 years, would you build one of them and ignore the other?

Mr. HEYMAN. Very frankly, I would like to get done with the one in Suitland. I think that is the highest priority, because we simply have got to move that collection out of the circumstance it is presently in. If we were to delay anything, I would prefer to delay The Mall museum.

Senator GORTON. Even though it is The Mall museum that you are getting outside money——

CURRENT STORAGE CONDITIONS OF HEYE COLLECTION

Mr. HEYMAN. That is right. But I still would, just because I think that we are really in jeopardy. Bob Dillman has some pictures here that give you some of the flavor of what it looks like up in New York.

Mr. HOFFMANN. I think you have copies of this. As you can see, the objects are extremely crowded. They are on open shelving, so they are exposed to dust and pollution. They are so crowded, in fact, that it is extremely risky even to try to move an object, because any moving tends to——

Senator GORTON. Would the Suitland facility be sufficient to store everything that is up here in these places in New York, and more?

Mr. HOFFMANN. That is right.

Mr. HEYMAN. Probably some more, but——

Mr. HOFFMANN. Some more, not very much. The Heye Foundation collection is a single collection, and we do not contemplate major additions to it, as it stands.

What we are hoping for is a sort of storage—these are the same kinds of objects you see here, pottery. And you can see that we have shelving that can be closed up, so that the objects are enclosed, protected from dust and contaminants.

They are spaced so that they can be easily retrieved or put back in the collections. This is the sort of situation that we hope to achieve for this very important collection.

Senator GORTON. Does the Heye collection fairly represent all of the varying Indian cultures and civilizations in the United States?

Mr. HEYMAN. It is pretty comprehensive. About 70 percent of it is Indians who lived in what is now the United States or in portions of Canada. About 30 percent is Central American and South American. It represents a very large proportion of Indian roots in the United States.

FISCAL YEAR 1996 PRIORITIES

Senator GORTON. Now, on to your request of appropriations for next year: In nominal dollars, the budget that has been submitted to us increases your appropriations by approximately 10 percent over fiscal year 1995.

This subcommittee is more likely than not to be faced with a total amount of money for all of its various responsibilities that, at best, will be equal to the number of nominal dollars that we have for the current year, and very likely be fewer.

I guess I have a double question. How do we justify cutting the National Park Service, the Bureau of Indian Affairs, the National Endowment for the Arts even more in order to provide a 10-percent increase for the Smithsonian Institution?

And assuming that you got precisely the same number of nominal dollars for next year that you are getting for this year, what would that require you to cut out?

Mr. HEYMAN. Well, we are prepared, really, to go through this whole thing and prioritize as best we can. It is a little hard for me to do it right here, but we are prepared to do that.

Senator GORTON. All right. I will want you to do that. You recognize the problems that this subcommittee faces, in connection with all of our areas of responsibilities.

Mr. HEYMAN. Yes; I do recognize it.

MAINTENANCE AND REPAIR BACKLOG

Senator GORTON. Something that is related to that, and related to your construction budget, is your backlog for the maintenance of the facilities that you already have.

I heard yours and, obviously, the eloquent justification of Senator Inouye, for these new facilities. But how do we balance our desire for new facilities against our obvious requirement of keeping those we have in pristine condition?

Mr. HEYMAN. It is hard. It really is hard, given the budget cap, and we really have to try to think through where we would suggest that we hold back.

I must say that on the R&R budget, we have gone many years with a budget that is inadequate. And we did do an analysis this year, which was persuasive at least to OMB, which gave us a \$10 million increase, not the \$20 million that we thought would be the best, but the \$10 million increase, which we think will go a long way to meeting the problems that we have.

In this exercise that we obviously have to go through, we are going to have to balance and make suggestions to you, and see the extent to which we think it justified in what are our priorities with respect to lessening that sum.

There is no doubt about the fact that we have problems, and we have some very noticeable ones that we simply have to address rapidly in order to preserve collections, not the least being that we have to put a new roof on the Museum of American Art and the National Portrait Gallery. That is about a \$5 million item.

And we simply have to do that, because we have been patching and trying our very best to stop leaks. But it is like my house in California; apparently, you really have to replace the whole roof if you are going to really stop those leaks. So we have some real problems that we have to face in that reordering.

POLITICAL CORRECTNESS AT THE SMITHSONIAN

Senator GORTON. Now I want you to speak to the record in such detail as you will about the controversy over the Enola Gay exhibits, and beyond the Enola Gay exhibit, the clear perception across the country that the Smithsonian Institution, in many of its exhibits, is infected with an overwhelming political correctness virus, which somehow requires that you denigrate American history, whether it is our expansion into the West, or World War II, or the like.

You did not arrive in this position until most of what was going to take place had taken place. You have taken actions with which I can say on the record, as I have to you personally, I agreed under the circumstances.

But the people of the United States and the Congress are still faced with the proposition that the Smithsonian Institution gives the perception of wishing to downgrade our history, denigrate our triumph in World War II, treat the United States as an aggressor nation.

This, to put it mildly, differs rather profoundly from the attitude of national museums of other nations in the Western world.

What, if anything, is going to happen to keep this kind of very bad publicity, bad actions from recurring in the future—actions which, I have to say very bluntly, are likely to be reflected in future budgets of the Smithsonian?

Mr. HEYMAN. Well, as you know, and certain staff knows, I have been concerned with this kind of a problem. And I have addressed it a couple of times in public speeches that I have made, both in the installation speech, a speech I made at the Press Club recently, and some others.

My concern is taking action which is a proper kind of a response for a new secretary.

We have put together a good group of people, who are talking through and trying to put together guidelines with respect to exhi-

bitions, and to give us a much more uniform review process of exhibitions, so that we know, or at least I know, what is coming up on the platter and what the contents of the exhibition are.

So I think that what is happening in a way is that we are firming up the administrative and management relationship between the central administration and each of the museums.

The museums, of course, historically, have been really quite independent. And in many ways I would like them to continue to be, with the directors of the museum essentially responsible.

But I would like us all to be dealing within some framework of guidelines. I would like us all to have somewhat similar processes of review. And I would like early warning systems for the central administration, I think we can accomplish that.

Senator GORTON. It is, of course, the Smithsonian that takes the criticism when one of its elements involves itself.

Mr. HEYMAN. I have noted that. [Laughter.]

And consequently, I have a responsibility. I have no doubts about that.

Senator GORTON. Is that what your new provost is partly for?

Mr. HEYMAN. Well, in a way, yes. But, in a way, what I really have wanted is the ability—first of all, the ability to have somebody who is really accountable for the whole of the program rather than it being spread out, and various responsibilities falling between jobs.

But the second is to get some tradeoffs between arts and humanities on the one hand and sciences on the other, which were difficult in the past, because of separate assistant secretaries being in charge of those activities. But yes, in a way, accountability is a purpose of that reorganization.

But I did want to say something in advance of that, which is that I have not only been trying to think of management, I have been going around and seeing a bunch of exhibits, and going through museums slowly.

It is a vast place. The kinds of problems that have been noted, especially in some of the press, really are basically history exhibitions.

I think it is very noteworthy to realize that we also learn from past experience. And I guess the first of the notable exhibitions that come within your description, Senator, was West as America in the Museum of American Art.

That happened 4 or 5 years ago, and the people at the Museum of American Art really took the criticism that was rendered and have acted in accordance with that criticism.

So that is one thing I wanted to say, which is that there is a learning curve, and there is education that goes on within us.

The second thing I wanted to say was that if you look around the Smithsonian here in Washington at the moment, there are about 150 exhibitions, and then countless other objects that are not in exhibition format.

And there are about five that fit within what we are talking about in terms of controversial, in that sense. So in terms of scope, what always happens is that a group of things is fastened upon and the rest of the Institution is characterized by that.

Senator GORTON. V-J Day was a pretty big day.

Mr. HEYMAN. I understand. I understand that. By the way, I really do find, in a way, the Enola Gay exhibition and the problems that were raised by it extraordinary—in the sense that they so infuriated so many people. We just have not had anything like that, and I hope to God we never have anything like that again, in terms of response.

And I might just say about the Enola Gay exhibition itself—and I do not want to get into long descriptions of process, and all the rest—the original script, and the notoriety that it got, really kind of poisoned the atmosphere, because the eventual script that everybody came up with—through a collective activity of veterans groups making criticisms, and curators acting, and changes being made—if that had been the original script, that would be the show that would be going up in the Air and Space Museum now.

So in a way there was a corrective process. But unfortunately, it was the corrective process that gave us a terrible black eye, and we cannot afford to do that. We simply cannot afford to have replications of that kind of attack on us.

EMERGING EXHIBITION GUIDELINES

Now, as far as other exhibitions are concerned, as I say, I have been looking at them, and I have been getting educated. There is one over in the American History Museum, for instance, that the provost and I have spent, what, 7 or 8 hours with curators, with outside people who have come in who were critical of it, making suggestions, and slowly changes are being made in that existing exhibition.

We are all learning quite a lot about the kind of problems that are raised, together.

I am not inclined to think that we should only show objects; although, obviously, we should show a lot of objects, because they have meaning in themselves, and they do not really need a lot of interpretation or context.

But I think we ought to do contextual things. I think, for instance, where we used to show the First Ladies' gowns, for instance, simply alone, and then after we had to take that down in order to clean the gowns and preserve them from the light, we replaced that with a more interpretative exhibition, which tells you a lot about each of those First Ladies, and what they did, and how they aided their spouse in office, and the like. I think it is really a much deeper and better kind of an experience.

But when we do those kind of things—and I hope our guidelines, as they emerge, are going to do this—we have to make very sure that, especially in controversial areas, we are really balanced.

We should be more of a forum, and not pitching a line. I feel very sensitive to our not preaching and our not conceiving of a particular interpretation, but rather in the really controversial areas, being a forum for a number of interpretations where we are in neutral, and where we absolutely are sure that there is balance of presentation. So I think that is one of the guidelines I am looking forward to.

I think we should be very explicit about what we are doing. I think one of the things that trouble some is that they feel that in

some way there are unstated subtitles; there are things that are supposed to be extracted, but they are not talked about.

I think being very, very explicit and trying to define what the objectives of a particular exhibition are, and how one gets there, is a very good discipline for making sure that we are balanced.

And then there are some things that maybe are just not right for exhibitions. Often I have thought, with respect to the morality and the reasons and all the argument that surrounded the use of atomic weapons, I am not sure that that is the kind of thing you meaningfully can address on a wall, that that is the kind of thing that you address with a lot of words in books, and in a lot of conversation back and forth, that is very interactive.

It is a different way, but I am just not sure. I think some of the undertakings we have made in the past are probably not very appropriate for wallboard exhibitions.

As a matter of fact, the more signs you see, the more plaques you see, the more labels you see, written large, probably the more you see of that, the less that whole subject is really appropriate for education through exhibition. So we have a lot to do, in terms of thinking this through.

And, of course, there is very lively debate in the museum community, in general—this is not just the Smithsonian, but around the country—with regard to what exhibition policy ought to be.

But this is the direction we are going in, and I take it really quite seriously, and I take it as my responsibility to ensure that this is going to occur.

REDUCING SMITHSONIAN WORK FORCE

Senator GORTON. Another subject. At some point during the current fiscal year, as I understand it, you will have reduced your full-time equivalents by something more than 200 individuals. What impact is that going to have on the way in which you operate your museums?

Mr. HEYMAN. Well, I am going to let the Under Secretary talk about this, because she is the one who, before I arrived, really orchestrated that.

Ms. NEWMAN. We tried very hard to go about this in a systematic way by, first, in 1993, coming back for approval to reprogram, based on restructuring, which came about through a process of back and forth with the museums and with the research institutes.

At that time, we reduced the work force by 41 people. That was based on the organizations saying that they could continue to carry out their mission, yet lose those personnel.

The second round was using the Federal buyout authority, which was very helpful to us, because we did not want to run a formal reduction in force.

I will not go into all the reasons that we do not want to do that, except to say that given the formula process and the way in which it is so mechanical, you lose, as an organization, the ability to influence the outcome, and you lose often some of the people that you have brought in who are cutting-edge people.

Frankly, in a previous life, I would have tried to have changed that, but for a lot of reasons, I was not able to do that.

But anyhow, moving on, we used the buyout authority. We did not limit it. We made it available to anybody who was interested, and through that process, 209 people took the buyout.

Now, that has been more problematic for us, because in some organizations we lost key people, and we lost the position. But we were able to make determinations within the Institution to move resources and positions back into those organizations.

We had requests back for about 63 to fill in behind. I mean everybody had a sad story, as you might imagine. And we ended up, we were only able to fill, I think, 6 of the 63.

People had an opportunity to make their arguments, and we looked at our resources and found that six of those positions were critical to the operation. Now, we are going to go through another process. We have to come up with another 29 positions in this year.

But I guess I would end by saying to you, up to this time, we have tried to do it in a way in which the managers of the programs have had an opportunity to make their arguments, and we have tried to do it in a way that is not mechanical and destructive of the mission.

But it is tough. It is tough for everybody. But so far, they will not agree if you ask them, but I believe they have had their say.

Senator GORTON. And you do not believe that your ability to undertake your many missions, whether they are displays, or research, or preservation, have been seriously undermined?

Ms. NEWMAN. It is more difficult, but we have taken existing resources and moved them into those areas where we, in fact, felt that the mission would not be able to be carried out by the reduction of personnel.

But it is difficult, and I will tell you that we lost people in some of the critical trade areas for building exhibitions. We lost large numbers of people in our Office of Exhibits Central.

The second part of that problem is there is not a new generation of people coming along with those skills. We lost a large number of people in our building maintenance area. We lost some people in our general counsel's office.

So we are finding areas where there are serious difficulties, and we are having to move from other areas, which are not as high priority.

But yes, it has had an impact and we would certainly hope that we are not forced into a position that we have to move faster than we are now moving, because that would, in fact, have a serious impact on our mission.

Years ago you would have said in this organization and many others, there is fat there somewhere. I would say to you that we are down to the bone really throughout the Institution.

UNOBLIGATED BALANCES IN THE REPAIR AND RESTORATION ACCOUNT

Senator GORTON. OK. Thank you. You talked about new roofs. My notes here say that as of 2 months ago you had over \$33 million in unobligated balances for repairs and renovation. What are they for and when are they going to be obligated?

Mr. DILLMAN. I think in the last few months that a lot of those obligations have been made, Senator.

Senator GORTON. It was probably fortunate. [Laughter.]

Mr. DILLMAN. Yes, sir; we have designs in place for repairs that far exceed the dollars we have available. One of the other things that we have to do is, because we are repairing very old, historic monumental structures, we must maintain a certain amount of contingency dollars available to us, because when we open up a wall, we frequently find things that we did not expect, or if we go above a ceiling we find things we did not expect.

And that normally runs us about 20 percent of the cost of a repair contract, for those things we find, and we have no way of predicting until we tear into it and do that repair.

For example, when we talked about doing the repair of the roof at the Museum of American Art and National Portrait Gallery, since it has been patched for years, there are many things under that roof that we just do not know what is there, until we start tearing it off.

So a certain amount of the dollars that you talked about, that \$30 million, are there to cover changes that occurred to us during our repair contracts.

Senator GORTON. These contracts are done by the private sector on a bid basis, correct?

Mr. DILLMAN. Yes, sir; they are.

Senator GORTON. But how do you deal then with all of these unexpected contingencies?

Mr. DILLMAN. When we do a design, we prepare a set of plans and specifications, which is typical in our business for any of the agencies.

We prepare a set of plans and specifications. We negotiate with a construction contractor, based on those plans and specifications, for a price to provide what is shown, what is detailed in those drawings and on those specifications.

But those are based on what we can see and what we know from our past experience with a particular system or with a particular part of the structure.

And we invariably find things. We find asbestos when we go in to tear out that we did not know was there, or we assume might be there, but were not sure. And so we price it as though it is not there.

If we expect or think there is a high potential for asbestos, for example, we will unit price it. We will agree with the contractor that for so many dollars a cubic foot, he will remove it and dispose of it for us.

But then we get in and we have to measure what the cubic feet are, and we will use those contingency funds then to pay for that.

At any one time we will have \$50 million to \$70 million worth of repair contracts underway, so 20 percent of that is a fair chunk of dollars that we have to have available to us to keep those repairs moving forward.

The other thing I would say to you is, for example, in the Museum of Natural History, where we have about 100 million dollars' worth of heating, ventilation, and air-conditioning required to be done in order to bring the systems to current day requirements and codes, we have that full packet designed at about a 25-percent level.

And we have 25 million dollars' worth of that 100 percent designed, and this year's budget request is only \$7 million for that. So by some miracle, if another \$16 million to \$20 million came to us, we could obligate that within a year.

We have many designs ready to go for repairs which are badly needed on the museums. It is just a matter of not having the cash at hand to do it.

OPERATING COSTS OF NEW FACILITIES

Senator GORTON. Let me go back both to the Indian Museum and the new Air and Space facility. Assuming that each one of these is completed, by how much is that going to increase the necessary personnel and future maintenance and operation expenses?

Mr. HEYMAN. Well, it will increase things, obviously. There is in this budget right now, provision for an increase in staff mainly in staff, for the Suitland facility, of about 30 FTE's. So, clearly, there is going to be an increase. I don't have with me a quantification of all of it, but there are increases in costs.

Senator GORTON. I think it will be valuable for us to know as soon as possible, let us say 5 or 6 years down the road, whenever your present construction plans would have all of these completed, how much larger, in numbers and in percentage, the permanent staff be, and the permanent maintenance and operation costs.

Mr. HEYMAN. OK. We will work those out.

NATIONAL ZOOLOGICAL PARK

Senator GORTON. Well, I am not sure that I have any specific questions on it, but due to all of the time that it has been in the news, does the Director of the zoo want to add anything to our testimony here today, to tell me what your plans are?

Mr. ROBINSON. Do you mean about the recent fatality?

Senator GORTON. Well, that is just what brought you into the news recently. Obviously, I do not think you can prevent something like that from taking place. I have no criticisms of the way in which you run the zoo.

It just reminds us all that you are there, and I would like to know something about your future plans.

Mr. ROBINSON. Yes; on that particular issue, of course, you are absolutely right, it was an unpreventable event. I spent a lot of sleepless nights worrying about whether there was any way we were remiss. The D.C. Medical Examiner came up with the verdict that it was not an intentional act, and could not have been prevented.

We are moving ahead in a lot of the development of the zoo, and we are very pleased with the support we have had in the past from the Congress in creating exhibits that bring us into the most modern form of humane exhibition of animals.

We are very pleased that we are giving an educational message, which has greatly improved and reaches 3 million people, at least, a year.

We are very happy, indeed, with the state of the whole situation. But the one thing that really is crucial is that throughout the

world, zoos and similar institutions are being vigorously attacked by animal welfare organizations.

I feel that that necessitates the continuance of our progress in creating admirable exhibits, where the animals and plants are properly looked after. And the message they convey is not mitigated by any sense that the animals might be oppressed or in inappropriate—

Senator GORTON. There is no question about that. Does that same movement lead to any security problems?

Mr. ROBINSON. So far it has not. In Europe, there have been major problems in that direction. The animal liberation front has released animals from zoos, with disastrous effects for the animals that they have released.

They have not achieved freedom, as a consequence; at best, they have achieved a state of extreme stress. If you release wolves into downtown Birmingham—Birmingham, England, that is—it is not the ideal habitat, by any means. [Laughter.]

There is no ready supply of food, other than peoples' dogs and cats. [Laughter.]

So far we have our own security force, and that was one of the things that Mrs. Newman restored when two of our officers retired under the buyout plan.

That is an illustration of the kind of effects that this nonrandom retirement can have on a bureau. It is one of those processes where you do not choose people who retire, they choose to retire, and they can leave you very embarrassed—by people in inappropriate areas, like security, retiring.

We would love to carry on with our modernization and affecting so many people coming to Washington with a positive image of what the world of animals and plant life is about.

Senator GORTON. Thank you. I want to thank all of you. Secretary Heyman, you have taken this position over at a particularly stressful time.

Mr. HEYMAN. I expected a serene job, but much has changed since September.

Senator GORTON. It is obvious, and it ought to be able to go without saying, but it does not, that you now preside over one of the great American assets, even in these difficult times. We will do what we can to see to it that that aspect continues to prosper and to grow.

Mr. HEYMAN. Well, I am really very pleased with that sentiment, Senator. I could give you a long speech about how relatively small organizations find it hard to cut back, rather than big ones, but you have heard that from others, I am sure.

But I must say that having had 35 years at the University of California at Berkeley, and 10 years as chancellor, I have some sense of quality in education and in research, and I am astounded at, at least, selective parts of us.

I am astounded, for instance, at the quality of the Smithsonian astronomical observatory, its joint program in astrophysics at Harvard, the telescopes in Arizona, the new array that is going up in Mauna Kea. That is one thing we just have to preserve somehow.

We have to finish that. And there are \$650,000 of new money in here which is the finish of that project, but that submillimeter

array will be taking waves at a length that is going to permit looking through dust clouds, and presumably being able to see the birth of stars. It is just extraordinarily exciting.

The quality of the work that is being done there matches the quality of the work that is being done at the Smithsonian Tropical Research Institute, which is probably the best tropical biology laboratory and research undertaking in the world.

People flock there from other universities around the world, and they pay their way when they come. But it really is an extraordinary facility.

I hope that there will be a stability of relationship with the Panamanian Government as the United States leaves the Canal Zone. There is a worry there, but not a serious one.

I was down there recently with the Director. We went and talked to the President of Panama, and if the Government stays stable, we will be fine, because we are——

Senator GORTON. That is a big—— [Laughter.]

Mr. HEYMAN. But in any event, it is a wonderful place. Obviously, I have responsibilities of the sort that I just indicated, and I will followup on those assiduously.

But I agree with you, it is really one of the great assets for the United States. So it is up to all of us really to preserve it and enhance it. Thank you very much.

ADDITIONAL COMMITTEE QUESTIONS

Senator GORTON. There may be additional questions from other members of the committee. We have a series of questions we can submit to you in writing about particular projects and the like.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Priorities

Question 1. Mr. Heyman, you are in the unenviable position of taking up the reins of an institution at a time when fairly abundant financial resources, which encouraged an expansive set of plans, no longer exist. What thoughts do you have about maintaining the quality and vibrancy of this national institution within the smaller and more fiscally severe framework within which we will all have to work?

Answer. At the outset let me assure the Committee that I am absolutely committed not only to maintaining the quality and vibrancy of the Smithsonian, but also to extending its resources to new audiences. To do this in the severely constrained fiscal environment in which we must operate requires building on processes initiated by my predecessor to restructure programs and to take further steps such as those I did right after I took office to streamline institutional management by reducing its layers and consolidating administrative functions.

In addition, we must thoroughly examine key functions and policies such as collections acquisition and deaccessioning with respect to their centrality to the mission of the Institution and their costs. The Institution must also seek collaborative relationships with other educational and cultural organizations as candidates for the long-term use and storage of collections that may no longer be central to the Smithsonian and as potential partners for shared exhibition and administrative functions.

Finally, the Institution must generate additional sources of income. Three avenues for doing so include:

- developing partnerships that use modest amounts of Federal funds to stimulate additional resources in the private sector and with units of state and local government
- invigorating the Institution's fund-raising capacity in order to create a broader base of individual donors
- accelerating the Institution's business activities to produce not only higher levels of income, but also distinctive products and improved public services.

Question 2. Does this budget request and the priorities it outlines reflect your own stamp on the Institution, or your predecessor's? Will it be in the next fiscal cycle that the Smithsonian's budget will more fully speak to your own priorities or are you comfortable with the status quo?

Answer. Prior to my becoming Secretary I was a Regent of the Smithsonian. The pending request, which was approved by the Regents, reflects institutional priorities that were developed on a "ground up" basis in an environment that offered limited funds for new programs.

I place a very high priority on the funding requested for electronic communications because they offer the Smithsonian an incomparable opportunity to fulfill its founder's global mandate for the diffusion of knowledge. The Institution is uniquely positioned to provide data, images, and programming across the country and around the world, but it must first accelerate modernization of its information technology infrastructure. It also is important, I believe, to complete the submillimeter array, and to continue development of the National Museum of the American Indian.

The Smithsonian's budget request for FY 1997 will reflect a planning process that I am initiating, as well as further internal restructuring and management streamlining and continued emphasis on public access to institutional resources through the new technologies.

Question 3. A number of the Smithsonian's facilities are in urgent need of repair and renovation. The backlog for major capital renewal is estimated at \$250 million. With collections potentially endangered and the threat of closure to the public where significant portions of buildings are deemed unsafe, is it responsible to lay the groundwork for expansion prior to investing in current maintenance requirements? Are the Smithsonian's responsibilities for safeguarding current collections taking a back seat to other program initiatives?

Answer. The Institution carefully balances program initiatives, the need to repair and renew existing buildings, the need to provide new space essential to the long term preservation of the collections that it holds in trust, and fulfillment of legal mandates. The high priority placed on maintaining the Institution's most valuable assets -- facilities and collections -- and on meeting legal responsibilities is reflected in annual budget requests and in the Smithsonian's long-range plans.

The projects in the major construction program all meet one or more of these criteria. The National Air and Space Museum Extension, the American Indian Cultural Resources Center, and the Suitland Collections Center are components of the Institution's plan to provide adequate and appropriate space in which to house, care for, and study the collections. The Natural History East Court building will help alleviate long-term space needs. It also relates directly to the Smithsonian's ability to complete urgently-needed renewal of the Museum's HVAC systems in the short term. The Cultural Resources Center and the Mall museum building of the National Museum of the American Indian also will satisfy legislative mandates, as well as legal responsibilities accepted by the Government when the Heye Foundation collections were transferred to the Institution.

The funding requests for Repair and Restoration (R&R) and Construction further reflect institutional balancing: if more were requested for R&R, it would be at the expense of funding for essential space in which to care properly for existing collections. Similarly, these needs are balanced against the Smithsonian's operational requirements that appear in the S&E account. The increase requested for R&R exceeds that for S&E and underscores the Institution's determination to accelerate the pace at which Smithsonian facilities, the core infrastructure for achieving its program goals, are renewed.

Research vs. Collections

Question 4. The Smithsonian is frequently referred to as the "Nation's Attic." Behind it is the notion that you are the keeper of the nation's cultural treasures and artifacts, which indeed you are.

How do you respond to critics who see this as your sole mission and believe the Institution is overstepping its bounds by assuming a leading role in specific research activities?

Answer. The Smithsonian has a long tradition of being more than just a repository for collections. Some of its earliest work involved studies of the universe, research in evolutionary biology, and efforts related to understanding both temperate and tropical areas. The Institution's leadership role in specific research areas has developed from its unique collections, landholdings, and astronomical instruments.

Question 5. What can the Smithsonian Institution bring to its research efforts that is unique and could not be accomplished by another government agency or universities that receive federal grants?

Answer. The Smithsonian's research efforts focus on issues uniquely suited to the Institution by virtue of the combination of its collections, landholdings and unique instrumentation not duplicated by other federal agencies or universities. Further, the Smithsonian is interested in long-term questions (i.e. how ecosystems function over long periods of time) that can only be performed by an institution devoted to fundamental research with a permanent staff engaged in multi-disciplinary investigations. The Institution's research is often coordinated with other federal agencies and universities to ensure that it does not duplicate other on-going research programs or to ensure that it fills a unique niche which other institutions cannot. In particular, the national collections in areas of art, history, and natural science support research that would be impossible to carry out elsewhere.

Question 6. How does the Smithsonian coordinate its scientific endeavors with others to ensure that duplication is not occurring?

Answer. The Smithsonian employs a number of mechanisms for ensuring that duplication is not occurring. At the federal level, the Institution participates in the deliberations of the National Science and Technology Council and coordinates its efforts with the other science activities of government. Outside of the government, the Institution relies on tracking trends in the various disciplines where it conducts research by monitoring appropriate journals, attending national meetings, participating in research consortia, and by widely consulting experts in the field. In addition, the Institution relies heavily on peer review of its research in the sciences and is given feedback on the particular niche it fills in the disciplines represented at the Institution.

FY 1996 Reductions

Question 7. If the Smithsonian were forced to operate in FY 1996 at the FY 1995 appropriated level, where would the impact be felt most significantly? What programs would be impacted most severely? How would you absorb this erosion to your base? Would you take across the board cuts or would you target programs selectively? Which programs would you try to maintain at current level funding and which ones would be reduced? Please discuss.

Answer. The impact would be felt Institution-wide with major impact on the developmental programs at the National Museum of the American Indian and the submillimeter telescope array at the Astrophysical Observatory. Mandatory costs for pay would be absorbed by each Smithsonian unit. Museums, research centers, and offices would also be forced to absorb across-the-board reductions made for utilities and rent shortfalls. Where feasible, the Institution would look to reduce selected programs, although no final decisions on which programs to reduce have been made at this time. The Institution, under the leadership of its new Secretary, is in the beginning of a process to review its mission and reorganize and restructure to maintain core programs. Specific areas being considered for cost savings include:

- Closing of museum galleries or reducing public hours in order to reduce security costs
- Reductions to the on-going development of the National Museum of the American Indian
- Curtailment or elimination of research projects throughout the Institution
- Reduction or deferral of critical collections management activities
- Reduction of the Traveling Exhibition Service's outreach programs

Repair and Restoration

Question 8. The Smithsonian's request for this account in FY 1996 is \$34,000,000, an increase of \$10,046,000 over the FY 1995 appropriated level of \$23,954,000. In 1987, repair and renovation needs were estimated at \$216 million. As of April 1994, the Smithsonian estimated its total unfunded facilities renewal requirements at \$250 million.

The total federal appropriation for repair and renovation (not including NZP needs) from FY 1988 through FY 1995 has been \$193,394,000. The federal government has made a significant investment to help the Institution meet its obligations in this area. Why does it appear that this support has had little or no impact on the repair and restoration program? Please outline for the Subcommittee what has been accomplished within appropriated funds during the past eight years.

Answer. The amount of federal investment from FY 1988 through FY 1995 has been significant. However, given the age, nature, location, and historical status of many of Smithsonian buildings and spaces, the investment has not been enough to keep facilities at a normally acceptable level. Facilities deficiencies are accumulating at a rate of \$32 - \$35 million a year - a rate greater than the annual appropriation. The biggest contributor to the annual increase in deficiencies is the normal aging of building systems and components. Most of the Institution's older buildings were last renovated in the 1960s. Several were newly constructed about the same time, and several more were built in the 1970s. Building systems have an average life expectancy of 20 - 30 years, and the pace of deterioration accelerates dramatically as they pass the 30-year mark. New regulations on hazardous materials (such as PCBs and asbestos containing materials), and accessibility requirements have also contributed to the growth of facilities deficiencies.

Without adequate funding levels, the Smithsonian has been unable to accomplish systematic renewal of the older building systems. Some renewal work has been done -- notably at American History and the Freer Gallery. Work has also begun at the Natural History Building. Most of the funds provided in the Repair and Restoration account, however, has been necessarily focussed on making repairs "just in time" to keep buildings operational, and on meeting code requirements. A listing of the most significant projects completed in the last eight years follows.

- ceiling repairs and replacement at the Air and Space Museum Building
- attic repairs and renovations at the American Art and Portrait Gallery Building
- repair and renovation of galleries and support spaces at the Freer Gallery
- repairs to all Smithsonian parking lots and sidewalks in the Mall area
- repairs and safety improvements to the access road at Whipple Observatory
- phased facade repair and window replacement at the Smithsonian Institution Building
- roof repair and replacement at the Air and Space Museum, Renwick Gallery, Cooper-Hewitt Museum, and Hirshhorn Museum buildings
- exterior wall, roof, and skylight repairs to most buildings at the Paul E. Garber Facility in Suitland, Maryland
- window repairs at the Hirshhorn building

- energy improvements at the Renwick Gallery
- plaza repair and replacement at the Air and Space Museum, American History Museum, and Hirshhorn Museum buildings
- repair and installation of handrails in the Natural History Building
- major mechanical and electrical repairs to the Ancon building at the Tropical Research Institute in Panama
- mechanical equipment controls upgrades for all the Mall museum buildings
- electrical repairs to most buildings at the Paul E. Garber Facility in Suitland, Maryland
- electrical switchgear replacement at the American History Building
- major phased fire protection improvements and upgrades at the Air and Space Museum, Arts and Industries and Smithsonian Institution buildings
- emergency power upgrade for all the Smithsonian Mall museum buildings
- removal of significant amounts of asbestos containing materials throughout the Institution
- underground storage tank removal throughout the Institution
- removal and replacement of electrical transformers containing PCBs throughout the Institution
- elevator repairs and safety upgrades throughout the Institution
- security lighting for the Institution's Mall buildings and the American Art and Portrait Gallery building
- phased major repair and renovation of the heating, ventilating, and air conditioning systems and energy improvements at the American History, Air and Space Museum, and Anacostia Museum buildings
- chiller plant relocation, window replacement, and new mechanical equipment penthouse structures at the National Museum of Natural History
- cooling tower renovation at the Museum Support Center in Suitland, Maryland

Question 9. Given the grave condition of several of your facilities and the peril in which collections are placed as a consequence, has the Smithsonian been a conscientious steward in executing its responsibilities to safeguard our national treasures? Why were conditions not attended to prior to the accumulation of an identified \$200 million backlog? Why was there not a more timely evaluation that might have averted the structural crises now facing the Smithsonian?

Answer. The Smithsonian has been a conscientious steward in executing its responsibilities to safeguard our national treasures. For the past several years, the Smithsonian has been articulate in portraying the conditions of its buildings and the need for funds. We first reported the existence of a \$200 million plus backlog of repairs in 1987. The Smithsonian staff conducts regular building inspection. From these inspections and other investigative work the staff develops a five-year repair and restoration plan. This five year plan is the basis for annual appropriation requests.

While the Smithsonian's needs have been reflected in its annual budget requests, the full requests have been cut back at the executive and legislative levels. The Institution has effectively and efficiently used the funds that have been made available.

Question 10. Have structural needs and maintenance of facilities taken a back seat to an expanding construction schedule that has gone from an appropriation of \$3.805 million in FY 1986 to a requested funding level of \$38.7 million in FY 1996? Please comment.

Answer. The repair and maintenance of facilities has not taken a back seat to construction priorities. The Institution carefully balances the need to repair and renew existing buildings with the need to provide new space essential to the long-term preservation of existing collections and the fulfillment of legal mandates. The high priority placed on maintaining the Institution's most valuable assets -- facilities and collections -- and on meeting legal responsibilities is reflected in the annual budget requests and in the Smithsonian's long-range plans. The projects now in the major construction program meet one or more of these criteria.

The Air and Space Extension and the American Indian Cultural Resources are key components of the Institution's plan to provide adequate and appropriate space in which to house, care for, and study the collections. The Natural History East Court Building will help alleviate space needs in the long-range, and will directly impact the Smithsonian's ability to complete urgent renewal of the National Museum of Natural History in the short term. The American Indian Cultural Resources Center and the Mall Museum will satisfy legislative mandates, as well as legal responsibilities accepted by the government when the collections were transferred to the Institution. Several of these new facilities will also contribute to the Institution's ability to present exhibitions and other programs directly to the public, made available.

Question 11. According to your request, funding repair and renovation in the years ahead at the current appropriated level of \$24 million will not halt the

continuing decline of the buildings for which you are custodian. A minimum annual appropriation of \$40 million is necessary to halt the decline, an increase of approximately \$16 million over FY 1995. Are there areas where the Smithsonian can reduce its programs or plans in order to help provide the additional funds necessary?

Answer. As indicated in the answer to Question 3, the Smithsonian engages in a continuing process of carefully balancing Institutional needs related to program initiatives, to the repair and renewal of existing facilities, and to the provision of new space for the long-term preservation of its collections and the fulfillment of legal mandates. The Smithsonian's annual budget requests and its long-range plans reflect Institutional judgment on that balance and on the priority placed on maintaining the Institution's most valuable assets -- facilities and collections -- while also meeting legal obligations and utilizing the collections for public benefit. Diverting funds from existing accounts to that for repair and renovation would be at the expense either of Construction funding for essential new space in which to care properly for the collections or of the Smithsonian's already constrained operational requirements appearing in the S&E account.

Question 12. As of January 1995, the Smithsonian had a \$33,730,000 unobligated balance for repair and restoration (R&R). How much has been obligated since that time?

Answer. The amount of \$2.9 million has been obligated through February. An additional \$14 million is currently committed and expected to be obligated during FY 1995. The remaining \$16.8 million is needed to complete various projects now underway, cover testing, inspection and necessary contractual changes, as well as security and Office of Plant Services support and project management for R&R projects.

Question 13. The Subcommittee recognizes that because of the nature of activities in this category, dollars cannot always be allocated on a precise timeline. However, given the dire needs cited by the Smithsonian, is the Institution moving as expeditiously as possible in order correct hazardous conditions and potentially disastrous consequences?

Answer. The Institution moves as expeditiously as possible to correct hazardous conditions and potentially disastrous consequences. Projects are prioritized with immediate attention given those where safety of visitors, staff or collections are in immediate danger. Unfortunately, the backlog continues to grow, creating more situations that must be responded to on an emergency basis.

Question 14. The National Gallery of Art recently received a grant from the Department of Energy's Federal Energy Efficiency Fund to assist them with replacement of their building automation systems. Has the Smithsonian investigated the possibility of similar assistance from grant programs that may be

available to help meet the Institution's needs? If so, please explain. If not, why not?

Answer. The Smithsonian has received grants from DOE's Federal Energy Efficiency Fund to assist in lighting retrofit projects at the Museum Support Center. PEPCO rebates are also expected upon completion. Investigation of other alternative funding sources continues.

Applications for grant assistance are pending or in development for the following projects:

- Smithsonian Institution Support Center lighting retrofit (\$65,000)
- National Air and Space Museum lighting retrofit (\$45,000)
- Paul E. Garber Facility lighting retrofit (\$200,000)
- National Museum of Natural History lighting retrofit (approximate cost \$950,000)
- Hirshhorn lighting retrofit (to be developed)
- American Art & Portrait Gallery lighting retrofit (to be developed)

The Smithsonian is also exploring potential incremental funding from the Federal Energy Management Program (FEMP) for necessary major capital renewal. High efficiency replacement glazing for the skylights and window walls at the National Air and Space Museum, and energy efficient cooling equipment to reduce electrical loads are two candidates for FEMP funding.

Question 15. Is it realistic in this budget climate to hope that \$50 million a year, almost double your current funding level, will be available beginning in FY 1997 through the year 2000 and beyond to provide repair and renovation (R&R) funds?

Answer. The Institution is aware of the economic implications of its request for R&R funding. However, the Institution would be acting irresponsibly not to alert the Congress to the true need and the potential impact of continued funding at a lower level.

Question 16. The Museum Support Center is a relatively new facility and yet on the charts that display the conditions of Smithsonian facilities (p.105-107), it falls below the level of excellent. Why? Were there needs that were not anticipated or met in the planning and construction of this facility? Please explain.

Answer. As the chart on page 102 of the Institution's budget request illustrates, overall building conditions begin to decline at the end of the first ten years of service. The Museum Support Center was completed twelve years ago (in 1983), and thus is already past the period when it can be considered "excellent." The charts on pages 105-107 reflect a projection of an additional five years of deterioration, when the MSC will be 17 years old. The facility's position on the charts reflects only the normal aging process.

Office of Design and Construction

Question 17. The Smithsonian has requested increases of 15 positions and \$1.5 million for staff and support costs to administer the repair and renovation program. This would raise the appropriation for this division from the currently funded level of \$3.77 million to \$5.438 million in FY 1996. The request includes 9 positions and \$1 million to administer the program at the currently funded level of \$24 million, and 6 positions and \$500,000 to meet demands of the FY 1996 program at the proposed increased level of \$34 million.

What is not being addressed within the repair and renovation program as currently funded at \$24 million because of insufficient staff to execute this office's responsibilities? What would be accomplished with the 9 requested positions that cannot be accomplished within the current level of staffing?

Answer. The Office of Design and Construction (ODC) cannot currently complete a number of activities related to planning, design and management of R&R projects in a timely manner because of staff shortages. Projects which are ready to be bid are often delayed because construction management staff are not available to oversee contractor activities and perform inspections of work in place. Lack of staff to prepare cost estimates and job specifications also causes delays in preparing projects for bid. These delays result in additional costs to the Government, for example, through change orders. Some specific kinds of work, such as efforts to make all Smithsonian facilities fully accessible and in conformance with new laws and regulations governing seismic safety, are slowed due to lack of specialized staff to evaluate the problem areas and plan solutions.

The nine requested positions would allow ODC to develop and manage more design and construction activities and to properly consider and implement new laws and regulations governing seismic safety, accessibility, historic preservation, energy conservation, and the environment. The additional staff will make more efficient and effective use of limited R&R resources to reduce the accumulation of facilities deficiencies.

Question 18. From FY 1993 through FY 1995, the appropriation for the repair and renovation program has been approximately \$24 million. By the requested increase of 9 staff positions to administer this program appropriately at the current level, should we assume that the funding over the past three years has exceeded what existing staff could implement?

Answer. As described in the answer to the previous question, the Office of Design and Construction has in fact been spread thin and stretched to accomplish the current volume of work. To counter this problem, R&R funds have occasionally been used for contract and temporary staff to assist in management of R&R projects, but this is an expensive and inefficient solution to a long-term need.

Question 19. The budget request for FY 1995 did not contain a request for an increase in staff, but your request for repair and renovation funds was \$25.3 million, over a million more than the final Congressional appropriation.

How does the Smithsonian explain its current staffing request in light of the above. Please explain.

Answer. The Institution intended to use a portion of the FY 1995 requested increase in R&R funding for additional contract and temporary staff to assist in the management of R&R projects. As stated in the answer to question 18, the Institution has determined this method inefficient. An increase in permanent ODC staff would be more cost effective.

Question 20. Looking ahead to FY 1997 and beyond, when according to the budget estimate the request for repair and renovation funds will escalate to \$50 million, do you envision further staff increases for this office? Please explain.

Answer. Yes, the Office of Design and Construction may require a staff increase when the R&R program escalates to \$50 million.

Question 21. If Congress is able to fund fully your request for the Office of Design and Construction, what will be accomplished in FY 1996 that otherwise would be left undone, if held to the current funding level?

Answer. Work will be accomplished more efficiently and effectively with permanent ODC staff than with contractors and temporary employees. Projects will be designed, bid and constructed in a more timely manner, allowing the Institution to complete more work in less time, at significant savings. The nine new positions will dramatically improve management of construction activities and ensure that designs appropriately incorporate laws and regulations governing seismic safety, accessibility, and historic preservation.

National Museum of the American Indian Salaries and Expenses

Question 22. Within the Salaries and Expenses account, an increase of 30 positions and \$4.285 million is requested for the NMAI. For the record, please prioritize the 7 distinct request for federal assistance. Are there requests that could be deferred? Are there functions that would be enhanced by an increase in staff and dollars, but are nonetheless operational and can be maintained at current funding levels? Please explain.

Answer. The following lists the FY 1996 requests in order of priority:

1. Custom House Security and Health Support (10 Positions and \$854,000)
2. Facilities Support Personnel (3 Positions and \$137,000)
This request includes funding to hire 2 Engineers and 1 Groundskeeper.

3. **Community Services (4 Positions and \$253,000)**
 NMAI has placed an emphasis on the establishment of a "Community Services" component in order to provide outreach and support to tribal museum efforts and to work more closely with the people representing the living culture of the Museum. The Museum has identified a minimum staffing need of 4 additional FTE's to launch this effort. This program will focus on such activities as training and internship and expanding the accessibility of NMAI's extensive collections and resources to its constituencies.

4. **Public Programs (6 Positions and \$232,000)**
 NMAI has identified the need for 5 additional FTE's to work with the large numbers of the public who are visiting the GGHC. This does not represent an expansion of a program, but is an effort to stabilize and enhance the programmatic authenticity of NMAI "on the floor" educational efforts through the use of an interpretive staff. At the present time NMAI uses interpreters as a part of the exhibit experience, and they are employed on contract. This method has proven to have inherent quality control and training problems which NMAI intends to correct by making this function a fully recognized part of its program with permanent staff. The request for an additional position in the area of exhibits for GGHC will assist in the normal changeover of exhibits at the Custom House.

5. **Cultural Resources (4 Positions and \$480,000)**
 NMAI's request includes 4 additional FTE's to enhance its research efforts pertaining to the collection, the repatriation program and support of exhibits activities. Additional program funds in the amount of \$288,000 will allow for expanded research activities with tribal communities, enhancement of the conservation of the collection and support for the digital imaging of objects and photos in the collections. All of these efforts will improve accessibility to the collection.

6. **Administrative Support (3 Positions and \$878,000)**
 Without this staffing, NMAI cannot respond in a timely and cost effective manner to the myriad of support needs inherent in the planning and implementation of programs for the care and protection of the collection of the Collections Resources Center (CRC). Planning and procurement of equipment, furnishings, technology support, etc. for the construction and occupancy of the Mall museum will also be affected. Program funding in the amount of \$735,000 is directly related to the phase out of the Audubon Terrace facility, the operations at the George Gustav Heye Center

(GGHC) and the Research Branch at the Bronx. Of this amount \$485,000 can be deferred.

7. **Cultural Resources Center Equipment (\$1.451 million)**
An amount of \$1.451 million will begin to equip the CRC in support of traditional care and access to the collection. This support item will require long lead time for procurement and installation and will need to be closely coordinated with the building construction contract. In addition, the resources requested will provide funding for installation of a universal communication system. The system will provide efficient communication within the Suitland facility, communication with other NMAI sites, and automated access to the collections and research information. This request can be deferred.

Question 23: To date, construction costs for the three facilities have totalled \$42.7 million in federal appropriations. What are the total costs that have been appropriated to date through the Salaries and Expenses account for NMAI activities?

Answer: The Salaries and Expenses appropriations to-date for the National Museum of the American Indian are as follows:

NMAI Salaries and Expenses Appropriation History
(\$000)

	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995
NMAI Appropriation	4,000	10,168	10,772	12,365	11,502	13,241

Question 24. What are estimated operational costs and FTE levels for both the Cultural Resources Center and the Mall facilities, when completed? Where do we stand at present?

Answer. The Cultural Resources Center in Suitland, Maryland is scheduled to open in FY 1997. The facility will be fully functional when the move of the NMAI collection and staff from the Bronx is completed in 2002. The projected annual cost of operations for this facility when fully functional in FY 1995 dollars is \$12.329 million supporting 76 FTEs. The projected operating cost of the Mall museum is \$19.392 million and 159 FTEs and includes staff and funding from current D.C. operations. The following chart outlines the National Museum for the American Indian's anticipated operating requirements for FY 1995 through FY 2001.

National Museum of the American Indian Operating Costs

Facility	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
Mall		..	..	..	..	..	..	..	..	131	..	3,833	159	19,392
Custom House	61	6,270	67	6,816	78	9,411	78	9,834	78	8,989	78	9,046	78	9,057
Suitland	..	..	..	137	10	3,990	18	6,124	42	7,977	57	9,386	67	10,276
Ironx	43	1,775	46	4,180	54	5,369	54	5,369	31	3,704	19	2,613	9	2,053
DC	48	5,292	56	6,048	77	7,079	81	7,441	95	8,170	105	9,483	..	..

Note: Operating costs include salaries/benefits for NMAI staff, direct (NMAI) and indirect (other SI offices) support costs. SI offices providing NMAI support include: Office of Protection Services, Office of Plant Services, (including Utilities), and SI Libraries at the Suitland facility.

Move costs and one-time start-up costs such as furnishings, computer equipment, and conservation-related equipment, are as follows:

National Museum of the American Indian Move and One-Time Start-up Costs.

	FY 1996 \$000	FY 1997 \$000	FY 1998 \$000	FY 1999 \$000	FY 2000 \$000	FY 2001 \$000
One Time	1,826	5,496	1,837	7,200	12,500	3,500
Move	0	1,065	2,169	2,129	2,129	2,129

Question 25. What are the current operational costs and FTE level for the Custom House? Are the operational costs shared by the State and City of New York, as the construction costs were, or is that a full federal responsibility?

Answer. The NMAI's current Federal operating base for the Custom House facility is 61 FTEs and \$6.270 million. The operating costs are not shared by the State and City of New York.

Question 26. An additional \$735,000 has been requested to cover operations functions of the Washington, D.C. and New York facilities. Please break out the costs between the two offices. What was the federal contribution to the NMAI campaign development effort in FY 1995?

Answer. Funding requested for the Washington, D.C. facilities (\$415,000), includes increased rent costs for existing space; and travel between New York and Washington. In addition, funding for the George Gustav Heye Center (GGHC), N.Y.C. (\$320,000) includes upgrade of phone systems, cleaning/consumable supplies and maintenance contracts based on additional staff and projected public attendance which has exceeded original estimates and workstations for new staff. The federal contribution to the NMAI campaign development in FY 1995 is \$905,000.

Question 27. An increase of \$1.451 million is requested to begin to equip the Cultural Resources Center. It is anticipated that this funding will be kept in the base to continue the purchase of critical communications and collections storage equipment for the Suitland facility. Additional funding will be required in FY 1997 and future years in order to complete the relocation of the collection from New York. Please outline the plans and estimated future costs for this equipment. Is there current base funding that the \$1.451 million will be added to or is this an initial request? How many years is it calculated that this amount will need to remain in the base?

Answer: The requested funding will complete the purchase and installation of communications technology equipment by FY 1997 to coordinate with the anticipated construction completion of the Cultural Resources Center (CRC) in September 1997. The total estimated cost of \$2.015 million is phased between FY 1996 and FY 1997. An amount of \$5.44 million for the purchase and installation of compact collections storage equipment for CRC will be phased over a six year period between FY 1996 and 2001. This is in addition to a request under the Major Construction Program account for \$2.11 million, which will cover the installation of floor tracks and initial allotment of compact collections storage equipment. The \$1.451 million requested in FY 1996 is an initial request that will need to remain in the NMAI base through 2001.

Question 28. Four positions and an increase of \$253,000 is requested to establish a community services program. Where will this staff of four be located?

Answer. The four staff members will initially be located in existing offices in L'Enfant Plaza. When the Mall facility is completed, NMAI will relocate the program there permanently.

Question 29. Six positions and an increase of \$232,000 for public programs and exhibitions at the Heye Center is requested. How much of this increase will be used to accommodate the current program? How much will be used for expanded activities? Are volunteers used for these kinds of activities? How many individuals are employed by the Heye Center for these two functions now?

Answer. This does not represent an expansion of a program, but is an effort to stabilize and enhance the programmatic authenticity of NMAI "on the floor" educational efforts through the use of an interpretative staff. At the present time NMAI uses interpreters as a part of the exhibit experience, and they are employed on contract. This method has proven to have inherent quality control and training problems which NMAI intends to correct by making this function a fully recognized part of its program with permanent staff. The request for an additional position in the area of exhibits for GGHC will assist in the normal changeover of exhibits at the Custom House. NMAI currently has a roster of 100 individuals who volunteer for staffing the information and

membership booths. The Heye Center currently has 27 positions funded for these two functions.

Question 30. Of the requested increase of 4 positions and \$480,000 for cultural resources, \$288,000 is proposed for curatorial staff to expand its research activities with more field research in tribal communities, enhance the conservation of the collection through specialized treatments by contract conservators, and support on-going digital imaging of objects and photos in the collection. How much of the current budget is dedicated to these activities?

Answer. NMAI has dedicated \$178,000 of its FY 1995 funding to cultural resources activities. This funding includes:

Research Activities	\$25,000
Collections Conservation	\$63,000
Digital Imaging	\$90,000

Question 31. Ten positions and an \$854,000 increase have been requested in FY 1996 for Custom House security and health program support. This program increase will provide funding for 8 Smithsonian security officers and contract security officers, an occupational health nurse and an emergency medical technician. How much of the total \$854,000 increase is for security? What is the current level of security staffing at the Custom House?

Answer. Of the \$854,000 requested, \$654,000 is for security in New York, and \$200,000 is for health services.

There are 60 security personnel presently assigned to the staff at the Custom House. However, some staff and funding were temporarily diverted from the other NMAI facilities in order to open the building to the public this past fall. Contract officers are being used at the other NMAI sites (the Research Branch and Audubon Terrace), but this is not an acceptable solution for the long term because of the increased risk of security incidents. The requested funds will allow the Office of Protection Services (OPS) to replace those contract officers with proprietary officers and to hire to the full level of staffing necessary to secure all NMAI facilities in New York. Although the Audubon Terrace facility will close in the next year, these funds will allow OPS to provide security until the Smithsonian no longer has responsibility for the building. Finally, a portion of the funds will also allow necessary routine modernization and upgrades of radios and alarm systems at the Custom House and the Research Branch integral to the year-to-year operations of those systems.

The health services portion of the FY 1996 request will fund two positions and related support costs. The requested funding will support the full range of health services mandated by OSHA (physician services, hearing conservation, blood-borne pathogens, flu shots, and worker's compensation reports). The Custom House will be the central point in New York for all Smithsonian occupational health support.

Question 32. As of January 1995, an unobligated balance of approximately \$10 million included funding for security officers at the Custom House. Why do you include a request in your FY 1996 budget, when resources are available currently for unmet needs? How much of the total unobligated balance is targeted for the Office of Protection Services at the Custom House? Please explain.

Answer. The funds available to the NMAI in FY 1995 are budgeted for NMAI salaries and expenses (approximately 70% of the annual appropriation) and programmatic support. In FY 1995, an amount of \$200,000 of NMAI funding will be used to supplement the Office of Protection Services at the Custom House.

As of February 28, 1995, NMAI's unobligated balance was \$9.2 million. This funding is budgeted for specific uses in FY 1995 shown below and will result in no carryover funds in FY 1996.

(\$ in millions)

Salaries and Benefits	7.0
Travel	.3
Rent/Communication	.5
Other Services	1.1
Supplies	.2
Equipment	.1
Total	\$9.2

Question 33. The National Museum of the American Indian has funding requests for FY 1996 within a number of accounts. Please provide the Subcommittee with the total amount requested within each separate account for the NMAI in FY 1996.

Answer. The following summarizes FY 1996 funding for the National Museum of the American Indian by accounts:

Salaries and Expenses	\$16,125,000
Construction	
Cultural Resources Center	21,500,000
Mall Museum Building	3,000,000
Repair and Restoration	485,000

NMAI Construction

Question 34. To date, the Smithsonian has received \$42,699,000 in construction appropriations for all three facilities. The FY 1996 request is \$24.5 million, an increase of \$1.5 million over the FY 1995 appropriated level

of \$23 million. \$21.5 million is proposed for construction of the Suitland facility; \$3 million for planning/design of the Mall facility.

Design of the Cultural Resources Center (CRC) has been completed and construction is anticipated to begin in late 1995. \$22.956 million was appropriated in FY 1995 for construction (\$2.994 for the Mall facility and \$19.962 for CRC); \$21.5 million is requested in FY 1996 to fund the remaining construction costs and purchase a portion of the furnishings and equipment for the building. Another \$1 million from the Salaries and Expenses account will also be used for equipment. How much of the \$21.5 million requested through the construction account will be designated for equipment?

Answer. Of the \$21.5 million in the Construction request for FY 1996, \$3.94 million is for equipping the NMAI's Cultural Resource Center. Of this amount, \$2,110,000 is for the initial purchase of collections storage equipment, \$820,000 is for furnishings and equipment, \$780,000 is for security systems equipment, and \$230,000 is for signage.

Question 35. In the budget, it states that over the next several years, the remainder of CRC storage collection equipping requirements will be met through the NMAI salaries and expenses account. What are the estimated total costs of these requirements and over what period of time?

Answer. NMAI plans to phase the purchase and installation of collections storage equipment over a six-year period with the initial phase to begin during construction. Total projected costs in 1995 dollars for the collections storage equipment is \$7.55 million. Of this amount, \$2.11 million is included in the Construction account to install tracks in the floor and to purchase the initial allotment of compact collections storage units. The remaining \$5.44 million will be included in NMAI's Salaries and Expenses Account to continue the phased purchase of compact collections storage units between FY 1996 through FY 2001.

Question 36. Storage for the Heye Collection is now located in the Bronx. How much does it cost to operate the Bronx facility? Once the CRC is completed, what is the estimated timetable for removal of the collection from the Bronx to the Suitland facility? When is it estimated that the Bronx facility will be closed down and how much will be saved annually from the closure of this facility? Is the Bronx facility rented space? Please explain.

Answer. The Bronx facility's operational cost for FY 1995 is \$3.775 million; the cost at peak operation beginning in FY 1997 with the collections relocation phase is estimated to be \$5.369 million. The move of the collection from the Bronx is projected to take five to seven years. If the CRC is completed on schedule and opens in the fall of 1997, NMAI will begin moving collections in the spring of 1998 and complete the move by the end of 2002.

The Bronx facility is owned by the Smithsonian Institution. It was transferred by the agreement granting the Heye Foundation collection to SI.

Question 37. \$3 million is requested for completing the design of the Mall facility. Another \$3.7 million in non-appropriated funds will also be used. Total prior federal funding for design totals \$6.3 million. Where in the design process are we now?

Answer. Three concept alternatives will be ready by September 1995.

Question 38. Construction on this facility is scheduled to begin in 1997, with its projected opening in 2001. Estimated construction costs total \$110 million, 2/3's of which will be paid for by federal appropriations. Another third will be obtained through fundraising. Where does the fundraising effort stand now?

Answer. As of May 31, 1995, \$27,886,733 has been raised in cash and pledges toward the construction fund goal of \$36.7 million. Overall, the National Campaign for the National Museum of the American Indian has raised a total of \$32,824,899.

Air and Space Museum Extension

Question 39. Congress has authorized \$8 million for planning and design of the Air and Space Museum Extension. \$4 million was appropriated in FY 1995, \$2 million is requested in FY 1996 and a final \$2 million will be requested in FY 1997 to complete the federal commitment. Construction costs are to be met independent of any federal appropriation.

The Commonwealth of Virginia has affirmed its support for the Air and Space Museum Extension with a \$3 million interest-free loan, provision of infrastructure at the site (estimated at approximately \$25-40 million), and a \$100 million bond for construction. Last year at a hearing held by the House Interior Appropriations Subcommittee, the Director of the Air and Space Museum discussed finding "additional income streams" to pay off this bond. In the ensuing year, have some of these potential income streams been identified? Please explain.

Answer. Potential revenue streams at the Extension include both traditional and non-traditional business ventures. The Museum is currently looking into the feasibility of two types of non-traditional ventures that might be income generating and thereby permit a portion of the construction costs to be financed through a bond issue.

Both non-traditional ventures would entail using a portion of the 185 acre site for activities which complement the museum. One venture is a permanent aerospace trade fair which would provide exhibition space for military and commercial aerospace products. The other venture is an aerospace/futuristic entertainment complex which could provide additional activities for families visiting the museum. Efforts are underway to analyze the feasibility of these two ventures and to determine whether the income generated through these and more traditional means (e.g. parking fees, restaurant and gift shop purchases, and theater admission charges) would permit financing an appreciable portion of the

costs of construction. The Institution is also beginning preliminary discussions with representatives of the Airport Authority and the Commonwealth to ensure that these ventures would be acceptable to them.

Question 40. The Garber facility in Suitland, Maryland now serves to provide storage for the Air and Space Museum. How much does it cost to operate the Garber facility annually? Is this funded through the Museum's salaries and expenses account? If not, how?

Answer. Annual operating costs for Garber total \$3,028,000, the majority of which is funded through the Museum's salaries and expenses account. Total operating costs include security and plant services which are provided by central Smithsonian offices. These services total \$380,000 and are funded through the respective offices' salaries and expenses accounts.

Question 41. Are there repairs needed at the Garber facility in order to protect existing collections? If so, what are they and what is the cost estimate? Will these repairs need to be made in order to adequately protect the collections at the Garber facility while the extension is built?

Answer. The Suitland Hill Facility includes 28 older buildings. Garber occupies 18 of them. In 1992 a study was made of the entire facility to identify what was needed to bring the condition of the buildings up to minimum, but adequate, storage for collections still housed in them. Needed repairs include all types of maintenance--architectural, civil, structural, mechanical, electrical, fire protection and abatement of asbestos. The estimated costs of these repairs (in 1992 dollars) was approximately \$23 million for the work plus design and miscellaneous services needed to support the work.

Question 42. If the Air and Space Museum extension is not built, what is the estimated cost of upgrading the Garber facility to an adequate level? If the Garber facility is demolished once the extension is operational, what are the Institution's plans for that land?

Answer. If the Extension is not built, the work described in the previous answer will be required. If the NASM vacates the Suitland Hill Facility, the Smithsonian will have a continuous need for storage and shops at this site. A long range Master Plan has been developed by the Office of Design and Construction providing for the construction of modern facilities as the existing structures (which have exceeded their economic life) are demolished. In the current economic climate, however, it is unlikely that the SI will be able to proceed with this plan in the near future. The upgraded facilities now on the site will be critically needed until the new storage complex can be constructed.

National Museum of Natural History

Question 43. A contract award for construction of the East Court of the National Museum of Natural History is not scheduled to be made until early summer of 1995. What is a realistic estimate of when the building will be completed and ready for occupancy?

Answer. The East Court of the National Museum of Natural History should be completed and ready for occupancy in fourth quarter of FY 1997.

Question 44. The FY 1996 budget includes a requested increase of 9 positions and \$283,000 for East Court facility management. Without this additional support, the East Court cannot open to the public. If, as you state in the budget, portions of the existing museum structure will need to be closed down for renovation and repair of the HVAC system, can the facilities management crew now operating in those areas contribute to the operation of the East Court in the short term? If not, why not? Is it possible to defer this request until FY 1997?

Answer. The facilities management crew now operating in the areas of the Natural History Building closed down for renovation and repair of the mechanical (HVAC) system will not be able to contribute to the operation of the East Court in the short term. The existing facilities management crew now operating is small in relationship to the needs of the large existing building. There has been no increase in facility management resources for the Natural History Building since decentralization of the Smithsonian's Building Management Department in 1975, despite significant growth in both public visitation and the scope of Museum programs during that time.

Museum staff have learned from recent experience with such projects that demands for cleaning are much greater in occupied areas adjacent to the construction projects. In addition, needs for post-construction clean-up and maintenance in areas to be re-occupied by staff or re-opened to the public also demand a significant work effort. In combination, these maintenance requirements will greatly exceed any savings in maintenance costs from the temporary closing of an area for construction.

The East Court Building is projected to open in late FY 1997. It takes up to 6 months to fill positions in the Institution after funding is in-hand. Once the new staff is on-board, they must be thoroughly trained to perform their jobs well. When the Contractor has substantially completed the building, he performs only "broom" cleaning, leaving the majority of the detail cleaning and other necessary maintenance activities to the facility staff to perform. As soon as the Contractor turns the building over to the Museum for beneficial occupancy, the new maintenance staff must be on-board, trained, and ready to intensively clean the facility. Occupancy by the staff and the public must be initiated immediately in order not to delay the Major Capital Renewal Project schedule.

Deferral of the request to FY 1997 will have serious implications for the efficient maintenance of East Court. The museum needs to hire staff no later than late FY 1996 so that they will be on-board and in training to enable them to be ready to immediately implement the necessary cleaning and other maintenance

required to prepare the East Court Building for occupancy. While a full-year salaries and all other costs in FY 1996 is not required, sufficient funding for a quarter of FY 1996 of \$66,000 to hire 9 staff members is required. In FY 1997, the 9 positions and full amount of \$283,000 will be needed to support the staff hired in late FY 1996.

Question 45. What other staffing requirements will be necessary when the East Court facility is completed?

Answer. There will be additional staff and support requirements necessary to maintain and provide security for the East Court facility when it is completed:

- The National Museum of Natural History will require additional resources to support operations beginning in FY 1997 including: (1) 3 salaries, and all other funding to support the facilities maintenance requirement and (2) additional one-time funding for a telephone system and other electronic communications costs.
- The Office of Protection Services will require 5 security officers and support costs to provide sufficient security for the East Court Building.
- The Office of Plant Services will require additional funding to pay estimated utilities costs and to hire 3 maintenance mechanics to run the mechanical equipment and provide routine repairs of the building.

Question 46. What is the status of plans to construct a West Court facility with private funds? By how much is it estimated that the federal appropriation for operations will be increased after construction of this building is completed?

Answer. Congress authorized the construction of the West Court Building, now known as the Discovery Center, on November 24, 1993. The design contract was awarded in May 1994 and the design will be completed by June 1995. It is anticipated that construction will start by late FY 1996 and be completed by late FY 1997 or early FY 1998. No federal appropriation will be required after construction of this building is completed. It is anticipated that the proceeds of the large format theater, the restaurants and the Museum sales shop will cover the operational costs of the West Court facility. Such costs have been anticipated in the business plan.

Question 47. Significant repair and renovation of the original facility of the National Museum of Natural History is planned. How much has been expended to date? What is the total estimated cost of the major capital renewal plan for this building? When will the work be completed?

Answer. About \$27 million has been expended so far on significant repairs and renovations of the National Museum of Natural History. An additional \$95 million will be required over a period of years to complete the renovation. The minimum amount of time required is seven years. However, based on current funding levels the time required may be 12 to 17 years.

Electronic Outreach/Public Access

Question 48. This priority program enhancement for collections information systems (CIS) and support totals \$2,166,000 for the following: 3 positions and \$665,000 for the National Museum of Natural History; 3 positions and \$724,000 for a collections information system linking the 6 Smithsonian Art Bureaus; and \$777,000 for CIS outreach at the National Museum of American History.

Is this funding requested to support a new initiative or to enhance and expedite ongoing projects? What is the total estimated cost of this outreach initiative and when do you anticipate that the Collections Information Systems will be on line and available to the public? When do you expect this multi-year effort to be completed?

Answer. For the National Museum of Natural History, current projections are that full implementation will take five years and will require an estimated \$2 million increase in base funding. Definitive cost estimates and scheduling for the full program cannot be established until requirements are fully defined and designs completed for each development phase. The phased buildup of system capabilities will enable the public to have increased levels of access at each stage of development. Functional capabilities for users will increase as will access to more complex data types such as image and sound.

The requested funding for the National Museum of American History is to expedite the museum's capability to make collections information available to the public in electronic forms and to upgrade the communications and computing environments that enable the delivery of this information. The overall program is planned for completion during 1999 to provide the visiting public with electronic access to collections information. Electronic images, video, audio and text will begin to be made available to the museum's visitors beginning in late FY 1995 and early FY 1996. A permanent base increase of \$777,000 is required.

The six art museums of the Smithsonian (Cooper-Hewitt, Freer-Sackler, Hirshhorn, National Museum of African Art, National Museum of American Art, National Portrait Gallery) have undertaken a collaborative effort (ARTCIS) to identify and implement a common Collections Information System (CIS) to answer the needs of all six museums. Total estimated cost is \$1.5 million in new funds to bring the six art museums to full implementation. Ongoing maintenance and equipment upgrades required to support the CIS will be covered in the museums' existing base. The ARTCIS goal is to have an automated Collections Information System fully operational in each art museum. This will form the infrastructure on which increased capability can be built for the public to access collections information including text, images and sound.

The activities associated with providing electronic access to the public is complicated, and the speed with which technology changes has major impacts on

what and how information is packaged. Initially, the information provided to the public will be limited due to the time it takes to place it in a suitable electronic form that has meaning to the public. As our understanding of this process evolves, we will be able to package and distribute more exciting and useful information. The CIS programs do not have an end in the traditional sense. As new or additional information becomes available and as the public's desire for information increases, the Smithsonian will continue to have requirements to maintain an up-to-date infrastructure to deliver the information as well as transforming the information itself into an electronic form. Several museums in the Smithsonian have recently implemented prototype public access components. Usage statistics demonstrate a strong public demand for electronic access to information about the National Collections.

Question 49. If only partial funding is available for this initiative, which of the three projects would take precedence over the other two?

Answer. The Institution believes that all of these initiatives are important to be completed so that the American public can have full access to collections information held by the Smithsonian. With partial funding, the Institution would reduce accordingly all the initiatives in order to continue progress.

Question 50. Does the \$1 million allocated within the base for Information Resources contribute to this effort as well? What has been accomplished to date through the Information Resources program?

Answer. The total FY 1995 base for this program is \$1.85 million of which \$375,200 has been allocated to the museums for collection information systems. The Institution recognizes that organizing and digitizing the collection is a necessary foundational step in efforts to establish digital repositories to facilitate public access. These systems are concentrating on the logistics of managing a collection of 140 million objects and are providing the structure within which the digital collection will reside. In addition, \$1.2 million has been committed to upgrading the Institution's network and \$100,000 has been allocated to upgrading the Institution's Internet access capability. The network upgrade, which is well into implementation, allows the Institution to begin moving digitized images within our own facilities and provides an enhanced gateway capability to the public for access to current and future services, particularly Internet-based products. The allocation to Internet access has provided upgraded computer equipment and software to greatly enhance the volume and quality of material provided through this network capability. In January of this year, the Institution opened its extensive library catalog to the public through Internet. On May 8, the Institution opened a comprehensive "World Wide Web" service on the Internet as a keynote feature of the Institution's electronic transformation. This visually stimulating product already contains fifteen to twenty hours of general information and electronic exhibits. The Institution believes that, in initial release, the product will set a new standard for the "Web". In the coming months, additional exhibits will be added.

National Zoo

Question 51. What portion of the annual Zoo budget is dedicated to the Migratory Bird Center? What are the staffing requirements? Is the Center's effort in Latin America coordinated to take advantage of STRI's presence in the region?

Answer. Although included in the National Zoological Park's line-item for presentation purposes, operating funds for the Migratory Bird Center (SMBC) are maintained separately from the Zoo's budget. The FY 1995 appropriation for the SMBC was \$382,000 and 7 FTE's.

The SMBC conducts ornithological research in several Latin American countries, including Panama. All research conducted by SMBC in Panama (currently 4 primary projects spanning the entire country) is coordinated through STRI. One primary research project of the SMBC is supported as part of a multi-disciplinary research program ("Stability of tropical forests and tropical forest fauna on military installations of the Panama Canal area") funded by a grant from the Department of Defense Legacy Natural Resources Program, administered through STRI. In short, the SMBC takes full advantage of STRI's presence in Panama, and success of SMBC research there is highly dependent upon cooperation and coordination with STRI.

Question 52. The Zoo budget includes an increase of \$390,000 to fund five positions for staffing at the Amazonia Gallery and the first module of the aquatic trail. What is the current status of the aquatic trail? How many of the five requested positions would staff the Living in Water exhibit?

Answer. Living in Water, the first module of the Aquatic Trail, is in an advanced state of design. The planning has anticipated minimal increases in staffing and has a greatly reduced living animal component. The Amazonia Gallery was originally designed to have a substantial component of living plants and animals. These were eliminated or scaled down when new support staff requests in previous years were not approved. However, both the Gallery and Living in Water exhibits are designed to allow for restoration of living exhibits should staffing be approved. Of the five new positions requested, one is designated for the Living in Water exhibit.

Question 53. Last year, it was estimated that a construction contract would be awarded for the Grasslands Exhibit by September 1995. Is this still the timeline for this project? Will the Zoo be ready to obligate the \$1,700,000 requested for FY 1996 during that fiscal year? Can part of these funds be deferred to a future fiscal year?

Answer. The National Zoological Park is on schedule and anticipates that a construction contract will be awarded before the end of FY 1995. The \$1,700,000 requested for FY 1996 will provide funding to complete the first phase of this project. The Institution anticipates that the actual contract will be

awarded in FY 1996. In order to keep to the current construction schedule, the Zoo will require the full \$1,700,000 in FY 1996.

Question 54. As of last year, the estimated total cost for the Grasslands exhibit was \$8,750,000. Additional private funding in the amount of \$1,215,000 would be necessary for the inclusion of the farm exhibit. Have these estimates been altered in any way during the past year and, if so, how? What is the estimated completion date for the Grasslands exhibit?

Answer. The estimated cost of the Grasslands exhibit has not changed. The complete Grasslands exhibit complex is scheduled to open in August 1999.

Question 55. Masterplan projects at the Rock Creek Zoo have outyear construction and planning/design costs of \$42,239,900. Repair and renovation figures total another \$19,350,000. Do these statistics represent the Zoo's ideal funding requirements or are they intended to be a realistic assessment of needs through the year 2000 and beyond? Please explain.

Answer. These figures do not represent ideal or even optimum requirements to maintain progress in upgrading exhibits and satisfying urgent educational needs. However, the Institution does consider them to be minimally realistic.

Cooper-Hewitt

Question 56. An increase of two positions and \$69,000 has been requested for care of the Miller/Fox collection and resource facility and the Carnegie mansion. How many staff are currently fulfilling these responsibilities? Is the current maintenance staff meeting the minimal requirements of the Museum? If not, please explain.

Answer. The Facilities department consists of: 1 Facilities Manager; 1 Assistant Facilities Manager; 1 Woodcrafter; 1 Mason; 4 Maintenance Mechanics; 3 Custodians; and 1 Administrative Assistant.

The Facilities staff meets the minimal requirements of the Museum as it now exists. Once the renovation of the Fox/Miller Resources Facility is complete there will be an additional 10,000 square feet of usable space open to the public, which will require a higher level of maintenance attention than is currently afforded this space. At present the Fox House facility is maintained by custodians only on the first floor, the home of the Masters Degree Program in the History of Decorative Arts. With the completion of the renovation, the remaining five floors will require daily maintenance and custodial services. Also, in addition to their regular duties, the facilities staff also cares for the lawn and gardens, unloads delivery trucks and shovels snow.

Smithsonian Astrophysical Observatory

Question 57. What is the arrangement that the Smithsonian has with other governmental agencies such as NASA and NOAA to operate Smithsonian Astrophysical Observatory (SAO) facilities? Approximately how much does it receive annually in financial assistance from other federal sources?

Answer. The Smithsonian has no arrangement with other governmental agencies to operate SAO's facilities and receives no financial assistance from other agencies to operate these facilities. SAO, however, does research and related activities for NASA, the Air Force, NSF, and other federal agencies via the mechanism of contracts and grants from these agencies. The expenses incurred are then reimbursed by the agencies. In FY 1994, these reimbursements amounted to approximately \$38 million (NASA), \$1.5 million (Air Force), and \$0.4 million (NSF). All other sources of reimbursement came to less than \$0.8 million.

Question 58. What does Harvard College offer as a part of the collaborative arrangement it has with the SAO in Cambridge?

Answer. As part of its collaborative arrangement with Harvard College Observatory (HCO), SAO has access without charge to all HCO's equipment and facilities, including its library, which has one of the best astronomical collections in the world. SAO is able to rent space from Harvard at rates significantly below those of the prevailing commercial market. SAO scientists have numerous collaborative arrangements with Harvard scientists that greatly enhance SAO's research capabilities. In addition, SAO scientists benefit substantially from the interaction with Harvard graduate students and faculty. SAO enjoys the advantage of the intense stimulation resulting from a close interaction with the staff of a major research university.

Question 59. Does the SAO anticipate holding its scientific instrumentation costs at the current appropriated level for the near future? If not, please explain.

Answer. SAO anticipates holding its scientific instrumentation costs at the current appropriated level.

QUESTIONS SUBMITTED BY SENATOR BYRD

The FY 1996 budget proposed for the Smithsonian Institution is \$407,450,000 in appropriated funds, an increase of \$36,357,000 (or 9.8 percent) above the FY 1995 enacted level.

The proposed increases for FY 1996 include \$16 million for salaries and expenses, to cover fixed costs, as well as new facility and initiative expenses; \$9.5 million for construction associated with the National Museum of the American Indian, the Air and Space Museum extension, and the East Court at the Natural History Museum; approximately \$900,000 for construction at the National Zoo; and \$10 million for repair and restoration to enhance the level of effort directed towards attention to the protection of the Smithsonian's facilities and collections.

Proposed Rescissions

Question 60. Mr. Heyman, the House of Representatives has recommended \$32 million in proposed rescissions in the Smithsonian's two construction accounts. By far, the largest portion of these rescissions affects the National Museum of the American Indian.

As I understand it, the agreements which provided for the transfer of the Heye collection to the Smithsonian required the construction of a storage facility for the collection. This facility is to be constructed in Suitland, MD. If the Suitland facility is not constructed, does this place the Smithsonian in violation of the terms of the agreement which brought the collection to the Institution? Would the Smithsonian be subject to legal action?

Answer. The terms under which the Museum of the American Indian, Heye Foundation, was transferred to the Smithsonian, are set forth in several documents. The parties entered into a Memorandum of Understanding on May 8, 1989, providing for the transfer subject to the enactment of legislation, which occurred on November 28, 1989. The legislation, in turn, was contingent on a decision by the New York Supreme Court granting the *cy pres* petition of the Museum of the American Indian. That decision was rendered by Justice Stecher on June 18, 1990. In that proceeding, brought by the Heye Foundation against the State and City of New York seeking permission to transfer the collection to the Smithsonian, Justice Stecher authorized the transfer subject to certain conditions. In paragraph 3(b), he held:

"If work on the facilities¹ of the National Museum of the American Indian (the "National Museum") does not begin within a reasonable period of time after the date on which Petitioner transfers to the Smithsonian title to its collection and other assets to the Smithsonian (the "Closing Date"), or if such work is not prosecuted with reasonable promptness, then the Attorney General as the Petitioner's assignee shall be able to rescind the Memorandum of Understanding and the Implementation Agreement and to recover the Petitioner's collection and other assets transferred to the

¹Facilities, for these purposes, means the George Gustav Heye Center in New York, the Suitland facility, and the Mall facility.

Smithsonian pursuant thereto...The term "reasonable" shall be construed in the context of government projects of similar magnitude and complexity."

Pursuant to this language, if the Smithsonian fails to construct Suitland, the New York Attorney General could initiate a legal action against the Smithsonian for breach of contract, and seek rescission of the transfer and recovery of the collection.

Question 61. Was the Suitland facility authorized in the legislation which established the National Museum of the American Indian?

Answer. Yes. Section 7 of the National Museum of the American Indian Act (P.L. 101-185), entitled "Museum Facilities", provides in Section (c) that:

"The Board of Regents shall plan, design, and construct a facility for the conservation and storage of the collections of the National Museum at the Museum Support Center of the Smithsonian Institution."

Section 17 provides that there is authorized to be appropriated to the Board of Regents "such sums as may be necessary for each succeeding fiscal year" to carry out this Act.

Question 62. If the \$21.9 million rescission for the cultural center is enacted, how will this affect the Smithsonian's plans for this facility? Would you "go back to the drawing board"?

Answer. The Smithsonian would not "go back to the drawing board," for the following reasons. Because on its legal agreement with the state and city of New York, which was ratified by Congress in the legislation establishing NMAI in 1989, the Smithsonian is required to improve the care of and access to the collections. Current designs, achieved at the expense of \$5 million, meet these requirements in the minimum way. None of the scenarios already reviewed for possible redesign would effect any measurable saving over the current design because most of the costs are associated with fire protection, security, climate control and collections equipment which are all basic to even a scaled-back facility. Rather, we would delay construction one year and attempt to request funding in FY 1997 to finish the project.

Question 63. What will be the effect of the proposed rescission of \$987,000 in funding for planning for the National Museum of the American Indian facility on the mall?

Answer. If the \$987,000 rescission for the Mall Museum is enacted, the Institution would either delay the project or use trust funds to continue the design process, as it was directed to do in FY 1994.

Question 64. How do these proposed rescissions affect your FY 1996 budget request?

Answer. If the House/Senate Conference Committee sustains these rescissions, it will be essential that the funding requested for FY 1996 be approved in order to meet Institutional commitments, keep the projects close to their current schedule, and, most significantly, contain their costs.

Overall Budget

Question 65: Secretary Heyman, as you know, the budgetary situation is not getting any better. In recent years, some parties, including this Subcommittee, have questioned the "vision" of the Smithsonian, not for its concept, but rather, for its lack of sensitivity to the realities of the Federal budget.

Mr. Heyman, you assumed responsibility as the Secretary for the Smithsonian Institution last September.

What do you see as the most significant challenge facing the Smithsonian Institution over the course of the next 5 to 10 years?

Answer: Becoming the truly national, indeed, international, Institution that it was intended to be is the most significant challenge facing the Smithsonian over the next five to ten years. Embedding itself in the hearts and minds of the people it touches by allowing them to find themselves within it - be it in the pursuit of scholarly interests, in the sharing of a common history, or in the connections of memory - is likely to reap benefits heretofore not contemplated either by the Institution or the nation to which it has been entrusted.

The National Mall would be an elegant but lifeless green space without the Smithsonian, the growth of which has been central to its shaping and to the significance of Washington as an international capital. As the examples of Bonn and Brasilia so amply illustrate, being a seat of government simply is not enough to invigorate a city, much less its culture.

Because of the Smithsonian, the Mall has become, in effect, the nation's front yard, bringing together a lively neighborhood of Americans and visitors from abroad for those largely informal, often entertaining, experiences which contribute so greatly to our education and our growth. Nonetheless, it is now time, and the tools are at hand, for the Smithsonian to break the bonds of the Mall and move as well into homes, schools, and communities across the country and around the world.

Becoming channel 143 in the era of multiple television stations, flooding educators with CD-ROMs, and beaming up to the Internet databases for the sake of data may be attractive tactics in that effort. Unless, however, they are part of a systematic strategy that understands the needs and nature of those it seeks to serve and validates means for doing so, they will be offensive and unused.

Developing and implementing an appropriate systematic strategy for meeting the challenge of wider service among a broader audience demands that the Institution re-organize itself, streamline its management, and examine the full spectrum of its activities. Resources will have to be redirected from programs that are no longer central to the Institutional mission to those that are, and new

sources of revenue beyond the Federal budget will have to be identified. In this process the Institution itself is likely to be redefined, becoming more entrepreneurial and more collaborative as it also becomes accessible to more people.

Question 66. Given what you have been able to learn thus far about the programs of the Smithsonian, and their various future goals, are these attainable at current budgetary levels? If so, what would be the effect on the current programs of the Institution?

Answer. There is a dramatic gap between the needs of the Institution that are reflected in its long-range construction program and the identification of resources with which to fund them. As a result, underlying functions and policies, such as those relating to collections, must be thoroughly examined and options for addressing their requirements must be explored. Until those processes have been completed and further decisions have been made, it is not possible to outline effects on current programs.

Question 67. And if not, what steps are you taking to bring your managers "back to earth" in terms of what they expect to be funded in the future?

Answer. Smithsonian managers are increasingly aware of the limits of the Federal budget. Because they cannot expect increases in the levels of Federal funding, they are being asked to look closely at the structures of their operations in order to identify opportunities for redirecting resources through streamlining management and consolidating functions within their units and across administrative boundaries. In addition, they are being encouraged to work on new fund-raising strategies in concert with the Institution's central development office and to think imaginatively about ways in which product development and communications could enhance their revenues.

Question 68. If funding for the Smithsonian Institution were reduced by 20 percent below the FY 1995 enacted level for the foreseeable future, what would be your long-term strategy for dealing with this scenario?

Answer. If such a reduction was mandated, the Institution would prefer to take it as a percentage and then make decisions about how to allocate it within its budget. Among the areas that could be affected by a reduction of that magnitude would be:

- drastically lowered staff levels through reductions in force, hiring freezes, and furloughs
- closing of museums, galleries, and the Zoo or reducing public hours in order to reduce security costs

- curtailment or elimination of research and exhibition projects throughout the Institution
- reduction or deferral of collections management activities
- drastic curtailment of employee travel, training, and overtime and of supplies and equipment purchases
- reduction of Traveling Exhibition Service outreach programs

Question 69. Under a -20 percent funding level, what would be the first priority you would propose to protect? Would the continued support and operation of the core facilities on the Mall and the National Zoo (and their attendant collections) receive a higher priority than research activities?

Answer. Reducing the enacted FY 1995 level of nearly \$314 million by 20% -- about \$63 million -- would leave the Institution with some \$251 million in operating funds. With a reduction of that magnitude nothing could be protected in the sense of maintaining current levels of activity because so much of the Institution's funding is tied up in salaries. People, large numbers of whom would be forced off the payroll, run the museums, galleries, and the Zoo. They perform research, manage collections, and create exhibitions, activities that are inter-related and inter-woven throughout the Smithsonian. Without necessary staff, those functions could not be sustained in the manner they are at present. All activities would have to be reduced and facilities to a substantial degree would have to be closed in order to provide a minimum level of care for the objects and living animals in the collections.

Question 70. To what extent does the proposed FY 1996 budget reflect your priorities for the Institution in the years to come?

Answer. As noted in my response to Question 2, before becoming Secretary I was a Regent of the Smithsonian. The Institution's FY 1996 budget request was approved by the Regents and reflects overall Smithsonian priorities that were developed on a "ground up" basis in an environment that offered limited funds for new programs.

I personally place a very high priority on funding for electronic communications, and believe that the higher level of funding requested for the repair and restoration of Institutional facilities is essential to any long-term prospect for the Smithsonian. It also important for the Institution to complete the submillimeter array being developed by the Smithsonian Astrophysical Observatory and to continue the development of the National Museum of the American Indian.

Operational Costs of New Facilities

Question 71. The budget proposes an increase of \$2,550,000 and 26 positions for additional staffing and operational requirements associated with new facilities. Briefly, describe the various new projects that are coming "on-line" and why these additional staff are necessary?

Answer. A portion of this increase (\$1.05 million and 11 FTEs) is specifically for new projects that are coming on line. In essence, the Institution has new space that will not be fully functional without funds necessary to maintain that space. For example, the Amazonia exhibit at the National Zoo remains only partially utilized because funds are not available to hire qualified personnel to staff the exhibit. At the Tropical Research Institute, funds are necessary to maintain air conditioning systems, fire sprinkler and alarm systems, and elevator service. At Natural History, funds are necessary to clean and maintain the East Court; without them, facilities management requirements in portions of the Museum will go unmet.

Also included in this request is \$1.5 million and 15 positions to support the administration of the Institution's Repair and Restoration (R&R) appropriation. These funds are essential to support accessibility, historic preservation, and construction management at the current R&R funding level of \$24 million; funds are also necessary to conduct structural reviews, coordinate environmental issues, and support construction management associated with the FY 1996 program request at the increased level of \$34 million.

Question 72. More than half of the proposed increase appears to be allocated to the Office of Design and Construction. Are these funds to be provided in support of projects already underway, or for new projects?

Answer. The funds will support both ongoing and new projects in the R&R program.

Question 73. What if Congress is unable to provide any of this requested increase this year? How would you absorb the added responsibilities of these new facilities?

Answer. If Congress is unable to provide any of the requested increase this year, the repair and restoration program for existing buildings will suffer. The proposed staffing increases will support annual repair and restoration projects: nine positions at the \$24 million level and six additional positions at the \$34 million level. Without the needed staff, the Institution will continue to leverage assistance in managing the R&R program by contracting out design and construction management activities or by hiring temporary staff to perform these functions. This will reduce the funds available to do actual repair and renewal work.

Question 74. The budget states (p. 45) that "if start-up and operating funds for facility management are not added to the current NMNH base, the East Court building cannot be opened to the public and staff when construction is completed." When is construction scheduled to be completed at this facility?

Answer. The East Court of the National Museum of Natural History is scheduled to be completed and ready for occupancy in fourth quarter of FY 1997.

Question 75. Would you really not open this facility, or would you perhaps only open it partially by reallocating resources from the National Museum of Natural History?

Answer. The East Court Facility would be opened to the public and staff even if operating funds for facility management are not added to the current NMNH base. This new facility must be fully opened and occupied so as not to delay the implementation of the Major Capital Renewal Project. However, it would not be possible to open the building in its entirety immediately after the completion of construction. The current facility management staff is focused on keeping the public Museum presentable to our visitors. This priority means that the time devoted to staff and collections spaces is at a bare minimum. As stated in the answer to question 44, after the contractor completes his work, much cleaning and other preparation remains to be done by the NMNH facility management staff before the new building can be occupied. If existing staff must be stretched to accomplish this work, it would of necessity have to be phased over a much longer period of time to meet occupancy priorities. Once the building is completely opened, this same staff resource would continue to be stretched to maintain both the new and existing buildings. As a result, the maintenance of the entire building in its public Museum, staff and collections areas would suffer.

Question 76. If the approach of the Smithsonian is that new facilities will only be opened if additional dollars are forthcoming, and the prospects for providing such dollars in the future is limited at best, why should the Congress provide any funding for capital projects at the Smithsonian?

Answer. As noted in the response to Question 3, the projects in the Smithsonian's construction program meet key Institutional criteria: the need to provide new space essential to the long term preservation of the collections that it holds in trust and the fulfillment of legal mandates. The extension of the National Air and Space Museum, the Cultural Resources Center of the National Museum of the American Indian, and the Suitland Collections Center are components of the Institution's plan to provide adequate and appropriate space in which to house, care for, and study its collections. The Natural History East Court building will help alleviate long-term space needs. In the short term it also relates directly to the Smithsonian's ability to complete urgently-needed renewal of the HVAC systems in the National Museum of Natural History. The Cultural Resources Center and the Mall museum building of the National Museum of the American Indian also will satisfy legislative mandates, as well as legal

responsibilities accepted by the Government when the Heye Foundation collections were transferred to the Institution.

National Museum of the American Indian

Perhaps the largest new effort underway at the Smithsonian Institution is the National Museum of the American Indian. Because of the House proposed rescissions, the Congress will soon be engaging in a debate about the appropriateness of this undertaking.

Question 77. Mr. Heyman, if the Congress were to determine that it would not agree to construct all of the various components envisioned in the legislation establishing the Indian Museum, how would you proceed?

Answer. P.L.101-185, which authorized establishment of the National Museum of the American Indian within the Smithsonian Institution and authorized appropriations for construction of its three components, is related to a Memorandum of Understanding dated May 8, 1989, between the Institution and the Trustees of the Museum of the American Indian, Heye Foundation. That agreement provided for the transfer to the Smithsonian of the collection of the Heye Foundation, and for assignment of the rights of the Heye Foundation (which now does not exist) to the Attorney General of the State of New York.

The authorizing legislation, in turn, was contingent on approval by the Supreme Court of New York of the *cy pres* petition of the Museum of the American Indian, Heye Foundation, against the City and State of New York for permission to transfer the collection to the Institution. In the decision granting that petition, which was rendered on June 18, 1990, the transfer of the collection was approved, subject to certain conditions such as that in paragraph 3(b):

"If work on the facilities [meaning the George Gustav Heye Center in New York, the Suitland facility, and the Mall museum] of the National Museum of the American Indian (the "National Museum") does not begin within a reasonable period of time after the date on which Petitioner transfers to the Smithsonian title to its collection and other assets to the Smithsonian (the "Closing Date"), or if such work is not prosecuted with reasonable promptness, then the Attorney General as the Petitioner's assignee shall be able to rescind the Memorandum of Understanding and the Implementation Agreement and to recover the Petitioner's collection and other assets transferred to the Smithsonian pursuant thereto...The term "reasonable" shall be construed in the context of government projects of similar magnitude and complexity."

Given this language and the fact that the Smithsonian cannot itself construct the remaining facilities, the absence of appropriations for them could lead the New York Attorney General to initiate legal action against the Institution for breach of contract and to seek rescission of the transfer and recovery of the collection.

Question 78. If such a determination were made, what portions, if any, of the planning and design to date for the Suitland facility and the Mall facility would be "salvageable" if Congress were to direct the construction of just one facility?

Answer. If Congress directed the construction of just one facility, about 50% percent of the planning (about \$0.8 million) would be salvageable. Although the space requirements developed would still be valid, the planning documents would have to be revised to combine functions, conduct a new environmental assessment, and conduct new site analyses. None of the design would be salvageable for either the Suitland facility or the Mall Museum (total \$7.07 million spent to date).

Question 79. What would happen to the integrity of the collection if the Suitland facility were downsized dramatically?

Answer. Dramatic downsizing of the Suitland facility would effectively confine the collections to their present substandard state of densely compacted storage which is especially damaging to fragile collections made of leather, feathers, cloth, and other delicate and unstable substances. Current plans permit a decompression ratio of 2 or 3 to 1 against a professionally recommended ratio of 5 or 7 to 1. Substantial reductions of storage space have already been made in developing the current design. Further reductions would not only fail to meet the requirement to improve care of collections but would also continue to limit their accessibility for education and research.

Question 80. What would be the cost savings if the mission of the NMAI were changed to involve primarily the protection of the collections, with some display/exhibit capacity, and the research and public programming functions were given a secondary role?

Answer. This question implies that the exhibition and education spaces at the Mall museum could be reduced in deference to collection protection. That result would violate legal agreements with New York City and State, subsequently ratified by Congress in NMAI's authorizing legislation, requiring a minimal total project of 400,000 square feet; controvert the public/private partnership requiring the Smithsonian to raise one-third of the \$110 million capital cost (\$37 million, of which more than \$27 million has already been secured), and dishonor the intent of the NMAI enabling legislation to relate the experience and contributions of the American Indian through a public facility on the National Mall. Negative financial consequences from these breaches would likely offset any cost savings from a shift of emphasis. Mere protection of the collections without providing spaces for research and collections support staff, and for access to the collections for research and active use, would also compromise existing agreements and statutes.

The information that resides in the collection is its most important aspect. Research continues to enhance that information, and much of that research is

conducted by Museum staff in conjunction with Indian people who visit the Museum's storage areas and identify the cultural context within which objects were made and the uses to which they were put. If the collection is considered merely as an assemblage of unique objects to be conserved in a static state, its education value is thwarted.

Question 81. A total of \$4,285,000 and 30 positions are requested for additional programming aspects of the NMAI. For the record, please provide a prioritization of the various components of this increase.

Answer. The following lists the FY 1996 requests in order of priority:

1. Custom House Security and Health Support (10 Positions and \$854,000)
2. Facilities Support Personnel (3 Positions and \$137,000)
This request includes funding to hire 2 Engineers and 1 Groundskeeper.
3. Community Services (4 Positions and \$253,000)
NMAI has placed an emphasis on the establishment of a "Community Services" component in order to provide outreach and support to tribal museum efforts and to work more closely with the people representing the living culture of the Museum. The Museum has identified a minimum staffing need of 4 additional FTE's to launch this effort. This program will focus on such activities as training and internship and expanding the accessibility of NMAI's extensive collections and resources to its constituencies.
4. Public Programs (6 Positions and \$232,000)
NMAI has identified the need for 5 additional FTE's to work with the large numbers of the public who are visiting the GGHC. This does not represent an expansion of a program, but is an effort to stabilize and enhance the programmatic authenticity of NMAI "on the floor" educational efforts through the use of an interpretive staff. At the present time NMAI uses interpreters as a part of the exhibit experience, and they are employed on contract. This method has proven to have inherent quality control and training problems which NMAI intends to correct by making this function a fully recognized part of its program with permanent staff. The request for an additional position in the area of exhibits for GGHC will assist in the normal changeover of exhibits at the Custom House.
5. Cultural Resources (4 Positions and \$480,000)
NMAI's request includes 4 additional FTE's to enhance its research efforts pertaining to the collection, the repatriation

program and support of exhibits activities. Additional program funds in the amount of \$288,000 will allow for expanded research activities with tribal communities, enhancement of the conservation of the collection and support for the digital imaging of objects and photos in the collections. All of these efforts will improve accessibility to the collection.

6. **Administrative Support (3 Positions and \$878,000)**
Without this staffing, NMAI cannot respond in a timely and cost effective manner to the myriad of support needs inherent in the planning and implementation of programs for the care and protection of the collection of the Collections Resources Center (CRC). Planning and procurement of equipment, furnishings, technology support, etc. for the construction and occupancy of the Mall museum will also be affected. Program funding in the amount of \$735,000 is directly related to the phase out of the Audubon Terrace facility, the operations at the George Gustav Heye Center (GGHC) and the Research Branch at the Bronx.
7. **Cultural Resources Center Equipment (\$1.451 million)**
An amount of \$1.451 million will begin to equip the CRC in support of traditional care and access to the collection. This support item will require long lead time for procurement and installation and will need to be closely coordinated with the building construction contract. In addition, the resources requested will provide funding for installation of a universal communication system. The system will provide efficient communication within the Suitland facility, communication with other NMAI sites, and automated access to the collections and research information.

Question 82. To what extent are volunteers being used at the Heye Center in New York to conduct educational tours for school groups?

Answer. Because of the knowledge base needed on guided tours of the exhibits, NMAI has contracted interpreters who have the degree of expertise essential to the desired museum experience. NMAI currently has 48 volunteers essential to the operation of the museum. These volunteers assist at the information and membership desks, but do not have the specialized expertise to conduct educational tours. There are 35 "active" volunteers: 30 who operate the information and membership desks accessible to the public and 5 student volunteers who support various NMAI departments. There are also 13 "on call" volunteers who are called when the museum is in need of extra support during special events or other programs.

Enola Gay Exhibit

Question 83. Mr. Heyman, over the course of the last year or so, there has been considerable controversy surrounding the proposed exhibit to accompany the display of a portion of the restored fuselage of the *Enola Gay* at the Air and Space Museum. After numerous redrafts, after the January, 1995 Board of Regents meeting, you announced the decision to replace the contentious exhibit. You also announced several steps being taken under your leadership to deal with this particular issue, and how future controversial topics would be dealt with by the Smithsonian.

Please provide the Subcommittee with an update of actions the Smithsonian has taken regarding the forum at the University of Michigan and future public symposia regarding atomic weapons.

Answer. "Presenting History: Museums in a Democratic Society," a free, public symposium was held at the University of Michigan's Rackham Auditorium on April 19, co-sponsored by the Smithsonian Institution and the University of Michigan. It provided a forum for discussions on ways that museums can best handle controversial subjects, particularly when museums create exhibitions on subjects whose interpretation may generate controversy. The conference was organized in three sessions with panels comprised of the academic and museum communities as well as military and journalistic perspectives. The sessions were "Exhibiting Controversial Subjects," "The Enola Gay Exhibit: A Case Study in Controversy" and "Museums in a Democratic Society."

Through this public forum, the Smithsonian facilitated an understanding of factors and forces that contribute to a "controversial" exhibit and how the museum and the public can best respond to these forces. In addition, the symposium sought to clarify the role museums take in enhancing the public's understanding of the nation's history.

Regarding public symposia on the origins and use of atomic weapons, no such symposia are planned at this time.

Question 84. What is the status of the management review of the National Air and Space Museum? When do you anticipate receiving a report and possible recommendations?

Answer. The National Academy of Public Administration (NAPA) agreed to conduct an independent management review of the National Air and Space Museum, which began in early April and will be completed by the fall. The National Academy is a highly regarded, independent organization, established in 1967 to facilitate development of top quality management practices in both the public and private sector. NAPA has achieved wide respect for providing broad experience and credibility in addressing complex policy and management issues.

The Academy works through distinguished panels of experts who work with research teams comprised of permanent Academy professionals. A panel of six individuals has been chosen for the study with Mr. James E. Colvard, Senior Fellow, Center for Naval Analyses, agreeing to chair the panel. The Provost is

currently working with staff at the National Academy to initiate the interviews and research papers that will be the focus of the study. The first meeting of the panel will be in May. The scope of the study will focus primarily on policy and decision making, planning and operations, as well as mission and organizational structure. The NAPA Report, with conclusions and recommendations, is due in September and will be shared with the Regents.

Locality Pay

Question 85. As part of the FY 1996 request for the Smithsonian, an increase of \$1,620,000 is proposed to cover the costs of the locality pay increase which took effect in FY 1995.

What actions has the Smithsonian taken during FY 1995 to absorb the \$1.62 million additional cost for locality pay which was not included in the budget?

Answer. Smithsonian units were advised in their FY 1995 allocations that the unfunded locality pay requirements would have to be absorbed within their base. As a result, units have delayed or cancelled recruitment actions, reduced contractual funding, reduced supply and equipment purchases, and reduced or eliminated travel.

Question 86. Have any facilities had their hours reduced? Are vacant positions being left unfilled for longer periods of time?

Answer. No facilities have had their hours reduced. While no formal review of vacant positions has been made, it can be assumed that vacant positions are being left unfilled for longer periods of time due to the required absorption of the locality pay increase in FY 1995.

Question 87. What, in your view, has been the effect of these actions on the services provided to the Smithsonian's visitors?

Answer. In our view, the effect of these actions on the services provided to the Smithsonian's visitors has been negligible. One direct impact, however, has been the inability of the Institution to fully meet its printing needs for visitor brochures; there may be times when these brochures are unavailable to the public.

Public Outreach

Question 88. Throughout the budget, added emphasis appears to be applied to the concept of public outreach, and the stated desire to make the Smithsonian Institution more accessible to the American public. How do efforts in support of this objective contribute to cost reductions for the Smithsonian?

Answer. The purpose of the Smithsonian's efforts in this area is to make knowledge available to as many citizens as possible and to allow that access to be shaped by their needs.

A broad range of technologies to provide electronic access to the Institution's many audiences (the general public, students, teachers, scholars, museum professionals, etc.) is currently being evaluated. Appropriateness to mission and cost effectiveness are the primary decision criteria in devising an overall outreach strategy.

To the extent that these efforts replace, over the long term, the need to construct new and not-yet-planned museum facilities, the cost reductions are substantial. In the near term, the redirection of resources and base funding associated with collections and information systems will be a major source of their support. In addition, the Institution is exploring the prospect of partnerships in the private sector as means for developing support for electronic communications programming.

Question 89. How does the Smithsonian justify additional funding for public outreach efforts at a time when other costly needs have been identified to maintain the primary facilities of the Institution and the protection of existing collections?

Answer. The primary justification for increasing public access lies in the Institution's mandate for "...the diffusion of knowledge among men." Across the years the Smithsonian has sought to fulfill that mandate and respond to demand through means such as exhibitions on the Mall and traveling to communities throughout the Nation; the scholarly exchange of information; publications such as books, magazines, and recordings; and communications systems such as radio and television. New communications technologies have increased demand for Smithsonian resources, while also providing new ways for sharing those resources very widely.

The Institution carefully balances program initiatives, the need to repair and renew existing buildings, and the need to provide new space essential to the long term preservation of the collections that it holds in trust. The high priority placed on protecting and maintaining the Institution's most valuable assets -- facilities and collections -- is reflected in annual budget requests, not only for renovation and construction, but also for operating funds associated with the management of collections, their protection, and improvements in the Institution's internal information infrastructure.

The emphasis on public outreach and accessibility builds on Smithsonian traditions in these areas, reflects the continued balancing of its various needs, and takes advantage of related improvements in the management of its core activities in order to honor its most basic obligation.

Question 90. The budget proposes \$2.2 million in new funding for expanded electronic outreach and public access for the "collections and research information system". Is this funding proposed to initiate a new system, or to expand and enhance an existing data base?

Answer. As discussed in detail in the answer to question 48, the requested funding will expand and enhance the existing collections and research information systems and provide greater access to the system by the public.

Question 91. To what extent will electronic users contribute to the costs of managing this system?

Answer. In its present configuration, the systems would be accessed by the public and scholarly community through the Internet. Costs associated with accessing the Internet would be the responsibility of the user.

Question 92. What is the total estimated cost and duration of the collection and information system enhancement project?

Answer. The total estimated cost of the Institution's Collection Information System (CIS) enhancement projects as undertaken by the National Museum of Natural History, National Museum of American History and the six Smithsonian art museums is difficult to provide, as this is a continuing program which will be affected by evolving technology as well as the public's increasing demand for information. Permanent base increases of \$2 million for NMNH and \$777,000 for NMAH are requested. For the ARTCIS project, \$1.5 million in new funds will be required of which \$724,000 is requested for FY 1996. The projects underway will be developed in phases over the next 3-5 years.

Science Research

Question 93. Included in the core mission of the Smithsonian is the "increase and diffusion of knowledge". This has resulted in the Smithsonian being involved in a wide variety of scientific activities, including astronomy, zoology, tropical forestry, global climate change, and biodiversity, to name a few. How are the science and research activities of the Smithsonian Institution coordinated and prioritized in conjunction with the activities of the other members of the Federal "family"?

Answer. The Smithsonian is an active participant in the various government-wide science committees coordinated through the National Council of Science and Technology. Through this mechanism the Institution keeps abreast of other federal research initiatives. Most interagency committees of the National Council are now setting priorities between existing and proposed research initiatives.

Question 94. For example, the budget (p. 30), includes discussion of the Smithsonian Environmental Research Center and its role in collecting data regarding the effects of the Mount Pinatubo volcanic eruption on ultraviolet radiation. How is the Smithsonian's work regarding the effects of volcanoes coordinated with the U.S. Geological Survey?

Answer. The Smithsonian work is focused on the design, construction, and calibration of precision spectral radiometers and on the actual measurement of ultraviolet radiation at the Earth's surface. These measurements can then sometimes be related to events, such as Mount Pinatubo, which may cause changes in the amount of ozone in the atmosphere or changes in other factors, such as atmospheric aerosols, which also affect the transmission of solar ultraviolet light to the Earth. The Smithsonian program is coordinated with the NOAA Climate Monitoring and Diagnostics (CMDL) program and the USDA initiative on ultraviolet radiation in the U.S. Global Change Program. For example, CMDL operates a Smithsonian UV spectral radiometer at its observatory on top of the volcano Mauna Loa in Hawaii. USDA has the lead role in coordinating U.S. efforts for monitoring ultraviolet radiation on Earth. They have provided the Smithsonian some of the funding for the construction of its UV spectral radiometers. Smithsonian findings are published and made available to the U.S. Geological Survey.

Question 95: Similarly, how do the activities of the Smithsonian regarding global climate change fit in vis-a-vis the funding provided for such programs at the Department of Energy, Forest Service, and the Environmental Protection Agency?

Answer: The Smithsonian is a participant in the interagency subcommittee on Global Change (a subcommittee to the Committee on Environmental and Natural Resources). This assures that Smithsonian Global Change research at sites such as Chesapeake Bay, Panama, and Carrie Bow Cay in Belize are not duplicating other U.S. Global Change research. In some cases research grants are obtained from agencies such as DOE or EPA to support specific projects at these sites. The Smithsonian also participates in conferences and workshops of such research networks as the National Science Foundation's Long-Term Ecological Research Network and Land Margin Ecosystem Research Network and the international Man and the Biosphere network. Participation in these networks places Smithsonian research at specific sites for both a national and a global perspective.

Question 96: The narrative in the budget about the National Zoo describes its proposed transformation into a biological park in order to represent "... the whole of life on earth, plant and animal, in all its complexity and glory."

What are the cost implications of this transformation? What major new construction is contemplated under such a scenario?

Answer: There are no major cost implications in this transformation. It is one of interpretation and not of dedicated construction. Thus, whenever new exhibits are built or old ones refurbished, the Zoo will simply make the connections between plants, animals, human activity and science in general as part of the scenario. For example, in the Grasslands exhibit the Zoo emphasizes the connections between the natural Grasslands and the basis of U.S. agriculture and the dairy industry. No new construction is specifically required to implement the Biopark idea.

Question 97. How are the public education aspects of the programs at the National Zoo aided by the work of the Smithsonian Tropical Research Institute and the Smithsonian Environmental Research Center? How are each of these entities different?

Answer. The Amazonia gallery will be a major educational endeavor consisting of exhibits that have been developed in cooperation with Smithsonian Tropical Research Institute (STRI).

The Living in Water exhibit, a cooperative effort with the Smithsonian Environmental Research Center (SERC), will emphasize aspects of the biology of the animals and plants of Chesapeake Bay. The input from SERC and STRI to programs at the National Zoo differ in the ecosystems found in biological regions that are their areas of study. STRI's input relates to tropical regions; SERC's is north temperate.

Question 98. The budget proposes an operational increase of \$390,000 to allow the National Zoo to hire additional personnel to staff the Amazonia gallery and the first module of the aquatic trail. What are the total additional staffing needs for these two exhibits? Will this request staff the Amazonia gallery fully?

Answer. The Amazonia Gallery was originally designed to have a substantial component of living plants and animals. These were eliminated or scaled down when new support staff requests in previous years were denied. Living in Water, the first module of the Aquatics Trail, is in an advanced state of design. The planning has anticipated minimal increases in staffing and has a greatly reduced living animal component. However both the Gallery and Living in Water exhibits are designed to allow for the restoration of living exhibits should staffing be approved. The six FTE's requested would be allocated to the Gallery (5 FTE's) and Aquatic Trail (1 FTE). In their absence the exhibits will be museum type and non-living. Six FTE's would be sufficient for both exhibits while 5 FTE's would fully staff the gallery.

Question 99. What is the status of Phase II of the Amazonia gallery? Are there additional staffing requirements associated with this component?

Answer. The Amazonia Gallery Phase I exhibit construction contract has been awarded and construction will commence in May, 1995. Phase II will follow shortly after the completion of Phase I and will open in early 1996. Staffing requirement are explained in detail in answers to questions 52 and 98.

Question 100. In its rescission package, the House proposes to delete \$500,000 in funding for the aquatic trail. What effect will this rescission have on this project?

Answer. If \$500,000 is rescinded from the available funds for the Aquatic Trail, construction to upgrade the Zoo park area close to a major entrance and

parking lot would be slowed. Delays would occur to make the important changes in the utility, security and appearance of this area.

Submillimeter Telescope Array

Question 101. The budget proposes an increase of \$650,000 and 6 positions in the Smithsonian Astrophysical Observatory for salary and related costs associated with the submillimeter telescope array. The budget includes a statement that this array will be completed by FY 1998. Why is it necessary to begin staffing in FY 1996, two year before completion?

Answer. The positions requested for FY 1996 and for past fiscal years for the Submillimeter Telescope Array serve two purposes: first to provide staff for the construction of the array; and second, to provide staff for the array after it becomes operational. The six positions requested in FY 1996 are the last of 34 staff that will serve both purposes. The positions requested in FY 1996 are needed to prepare the site in Hawaii, while the remainder of the staff completes the construction and testing of the antennas and receivers in Massachusetts.

Question 102. What are the estimated outyear additional staffing requirements (and costs) associated with this project?

Answer. The six positions requested in FY 1996 will complete the staffing of the array. In addition to the salaries and benefits for the array staff, which will then all be in the SAO base, the operation of the array will require additional funding of approximately \$2.3 million per year, of which about \$250,000 will be in the base at the end of FY 1996, if the requested funds are provided. These total operating costs, with allowance for actual inflation, are within the budget developed when the project was proposed eleven years ago. The Institution plans to request the remainder of the operating funds for the array as additions to the SAO base in FY 1997 and FY 1998.

Question 103. Why is a field station in Hilo required? How will the functions at Hilo differ from the activities to be conducted at the project site on the summit of Mauna Kea?

Answer. The summit of Mauna Kea is too high an elevation (13,500) for humans to work for extended periods of time. The summit is also far from a population center (a drive of more than two hours). SAO plans to operate the array remotely most of the time and thus to avoid the higher costs associated with full time staffing at the summit. Nearly all the telescope control, most of the equipment repair, and most other logistic support will be provided from the base camp in Hilo. Similar approaches have been adopted for all other instruments located at extremely high altitudes.

Construction Projects

Question 104. The budget includes \$1.7 million for the Grasslands exhibit at the National Zoo. What is the total estimated cost of this project?

Answer. The total estimated cost remains at \$9,965,000. This includes \$1,215,000 for the farm exhibit, which we expect to receive from private sources.

Question 105. What modifications can be made to the design for this project if it were to be constructed without additional appropriations?

Answer. If the Zoo received \$1.7 million and no more, it could build the Domestication area (without the Farm option) but would not be able to construct the African (Cheetah) Phase; this would be a critical shortfall because that area is in need of repair and renewal. Major construction funds have not focused in the area since 1965.

Modifications of this project could have a wide range of consequences. The continuing process of exhibit upgrading at the Zoo is a necessity for a number of reasons. The increasing scrutiny of exhibits by Animal Rights groups, which are increasingly active, is exerting public pressure on zoos throughout the country. Delaying the process of enhancing animal welfare and exhibit quality could subject us to public protests and media attention particularly embarrassing to a federally-funded flagship National facility. The Grasslands Exhibit will modernize an obsolete exhibit area close to two major visitor entrances and greatly enhance the visitor access and safety.

Question 106. When does the Smithsonian anticipate awarding the construction contract for Phase I of the Grasslands exhibit?

Answer. The construction contract will be awarded before the close of the fiscal year.

Question 107. The budget indicates (p. 118) that the Institution "...is currently considering a variety of capital expansion and improvement projects to provide needed facilities for existing programs and urgent new initiatives." Please provide a summary of the projects under discussion and a description of the urgent new initiatives.

Answer. The projects under discussion include possible consolidation of administrative space in an owned facility to reduce dependence on expensive long-term leased space and to free space in museums on the Mall for public use. The Institution also continues to develop alternative strategies for resolving the crisis in collections storage space.

Question 108. What existing programs would you do away with in order to accommodate "urgent new initiatives" if your budget is decreasing?

Answer. The Secretary has begun a strategic planning process that will address the questions of existing programs versus unfunded needs. The need to provide funding for urgent projects exists in every organization. The strategic planning process will incorporate such considerations. The schedule calls for completion of the strategic planning effort by the end of the fiscal year.

Question 109. The budget proposes that \$800,000 be allocated to cover escalated costs for two modules at the Environmental Research Center. Do you anticipate reprogramming the \$750,000 provided for this purpose in FY 1995? If so, for what purpose?

Answer. In its FY 1995 request to Congress for Minor Construction, Alterations and Modifications, the institution listed projects totalling \$5 million while the funding request itself was only \$3 million. Page 193 of the FY 1995 request contains the statement "the \$3 million request for FY 1995 accommodates all of the projects listed above. The Institution seeks the approval of the remaining projects listed below for the possible substitution and redirection of funds." The SERC laboratory modules are included in those projects listed below the line (see page 194 of the request).

While we had hoped that we might be able to redirect a portion of the \$3 million to complete the SERC laboratory modules in FY 1995, it now appears unlikely. The Institution is therefore requesting funding in FY 1996 for this project.

Question 110. If the funds provided in FY 1995 are to be used for the modules, why is the cost of the project expected to increase by over 100 percent?

Answer. As explained in the preceding answer, funds provided in FY 1995 will not be used to construct the laboratory modules. The \$800,000 requested in FY 1996 constitutes a small increase over the \$750,000 identified in the FY 1995 request. This increase represents the escalated cost of the original design, which was completed in April 1993.

Rental Space

Question 111. An increase of \$400,000 is proposed for additional archival storage space due to an anticipated depletion of existing storage space. Is this storage situation associated with existing collections, or are significant additional acquisitions anticipated? If the latter, what are the acquisitions and what is their importance?

Answer. The Smithsonian Institution Archives retains three categories of records: materials created or generated by the Institution itself, personal papers of significant individuals associated with the Institution, and records of related

organizations where Smithsonian staff invest a significant portion of their professional lives. The great bulk of the holdings (roughly 80%) falls into the first category. The rate of acquisition is approximately 1,000 feet of records per year.

The Archives is now completely full. New storage space is needed primarily for the continuation of transfer of records of the first category - archivally significant materials from the offices of the Smithsonian Institution - into secure and well-maintained storage. The Archives is required to preserve these records for the following purposes: for legal purposes of contracting, personnel, property transfer, etc.; to provide a basis for the Secretary's annual report to Congress as specified by the originating legislation; to provide a basis for the oversight of the activities of the Institution by the Secretary, the Regents, and the Congress; and to provide historical perspectives and a research resource for scholars, curators, administrators, and the general public.

Examples of future acquisitions include records of the National Air and Space Museum as well as file additions to Archives holdings from the Secretary's office, the national museums, central administration, and the Institution's multiple programs. These and other records trace the entire 150 year history of the Smithsonian and are irreplaceable sources of documentation and accountability for its actions, impact, and programs.

Question 112. If additional funding can not be provided for rental space, what steps would the Smithsonian take in order to protect its collections? Would you have to forego adding new acquisitions?

Answer. For the 20% of acquisitions that are personal papers or the records of related organizations, the Archives would be forced to cease or greatly reduce its rate of acquisition. These papers are of significant value to present day and future historians.

Of the remaining 80%, the Smithsonian is obliged to retain these records. A likely short-term solution would be to require offices throughout the Institution to hold their archival records for longer periods. This course would result in reducing further the Institution's already cramped office space while increasing the cost of records storage. Over a five-year period an estimated 2,254 file drawers of archival records will accumulate in office space. This situation poses grave threat to survival of historical documentation, since it forces "old files" to compete with staff and new files for highly valued space.

Long-term options include miniaturization of the Archives' holdings through microfilming or digitizing. While digitization in particular would carry the benefits of decreasing space requirements while increasing records accessibility, the start-up costs of digitizing the holdings of the Archives would be in the millions of dollars. Given budgetary constraints, the Smithsonian is unable to support this option, requesting instead support for additional storage sufficient to house acquisitions for the next ten years.

QUESTIONS SUBMITTED BY SENATOR DOMENICI

National Atomic Museum Request or an Enola Gay Exhibit

Question 113a. A letter dated February 27, 1995 was forwarded to Secretary Heyman regarding a request from the President of the National Atomic Museum Foundation, Joel Carlson. On behalf of the Board of Trustees for this museum, Mr. Carlson indicated that they would appreciate the opportunity to house the Enola Gay either on a permanent or temporary basis at the Albuquerque location. In addition to the controversy surrounding the Enola Gay exhibit, the Smithsonian is planning to store - away from public view - the Enola Gay until the Smithsonian Annex is completed. The museum board believes the period of storage is the perfect opportunity to display the plane in New Mexico.

For over 25 years, Albuquerque, New Mexico, has been the home to the National Atomic Museum. The museum's displays include unclassified atomic technology, the explanation of the atomic theory of matter, examples of the development of the chain reaction, items from the Manhattan Project, and missiles representing every branch of the military. Last year, the museum attracted over 200,000 visitors. Eighty percent of these patrons came from areas other than the Albuquerque metropolitan area.

On March 14, I. Michael Heyman's response to the initial letter states that the Enola Gay is one of the premier artifacts in the Smithsonian's collection. The plane has been under restoration for more than a decade at a considerable cost. Additionally, Mr. Heyman believes that transporting the plane may cause damage. Therefore, the Smithsonian has declined the proposal to loan the Enola Gay to the National Atomic Museum.

Isn't it true that only the front fuselage of the Enola Gay will be placed in the scaled-down display opening this June?

Answer. The display of the Enola Gay currently planned to open in the spring of 1995 will include:

- The forward fuselage,
- Two engines,
- A Vertical Stabilizer, Rudder and Dorsal Fin,
- Two Propellers; one assembled, one disassembled,
- A Radar Unit, and
- Several other small items.

Question 113b. When will the plane be fully assembled, and how long will the Enola Gay be housed in a warehouse?

Answer. The aircraft will be fully assembled as soon as a suitable building for its display is available to the National Air and Space Museum in the greater Washington Metropolitan area.

Question 114. How many hours will it take to fully assemble the Enola Gay?

Answer. It will take approximately 6,250 man-hours, or six people working six months to fully assemble the aircraft. The staff involved should be trained restorers, who will be able to perform the assembly without the original jigs that were used at the World War II aircraft factories. Without these jigs, irreversible damage from excessive strains could result if the assembly was carried out by other than skilled technicians familiar with the aircraft. If the aircraft were loaned to another facility and assembled and disassembled there, before final return to the National Air and Space Museum and reassembled, the entire effort would add up to 15,000 man-hours, a 9,000 man-hour difference. The Museum does not have a sufficiently large restoration staff, nor adequate funds, to carry out such an extensive set of operations at a remote site.

Question 115. Would the museum be willing to loan to the National Atomic Museum portions of the Enola Gay - such as the front fuselage, tail section or any other portion of the plane - while the Dulles Annex is being prepared?

Answer. Loans to other institutions, of artifacts that are not on display at the National Air and Space Museum, can be arranged. The Museum has a loan package that outlines our loan program to all potential borrowers and is happy to send it out on request. It lists a set of criteria intended to provide proper care and security for borrowed artifacts. If those are met, a loan for a fixed number of years can be arranged, with the understanding that payment for most costs involved, including shipping and insurance, will be borne by the borrowing institution.

Question 116a. What is the Smithsonian's policy in sharing artifacts and/or exhibits with other institutions?

Answer. Lending objects for exhibition, research, and study is an integral part of the Smithsonian's mission to make museum collections accessible to the widest possible audience. In general, the Smithsonian lends objects for educational, non-profit purposes. Borrowing institutions must comply with both specified environmental requirements and safety and security precautions, and are prohibited from using Smithsonian collections for private pecuniary gain. Requests to borrow unique or especially important objects and specimens are considered in light of the nature of the object; the impact of its absence on the visiting public and research scholars; the condition of and the risk to the object; and security, environmental, and legal restrictions. Outgoing loans are authorized by a standard loan agreement, which generally specifies the collection items to be lent, the purpose, time period, conditions of the loan, insurance coverage, the responsibilities of each party, and options for renewal.

Question 116b. How often does the Institution loan artifacts to qualified institutions?

Answer. Annually, the Smithsonian initiates approximately 2,000 outgoing loan transactions, which includes anywhere from 125,000 to 225,000 objects and specimens. These figures reflect only outgoing loans initiated in a given year. In addition, active on-going loans total approximately 500,000 objects and specimens annually. Such loans require periodic review, monitoring, record-keeping, on-site inspection, condition reporting, and conservation by Smithsonian staff. Smithsonian collections have been lent to organizations in every state, as well as over fifty foreign countries.

Question 117. Would it be a fair assessment that the Smithsonian Institution is very capable of safely transporting artifacts to and from remote locations?

Answer. If an object or specimen, following review, is deemed appropriate for loan and able to withstand the rigors of travel, the Smithsonian possesses the staff, skill, and professional expertise to safely transport objects and specimens to and from remote locations. Conditions at proposed exhibition and/or study locations and transportation methods are evaluated during the review of each loan request to determine whether the safety of the objects or specimens might be adversely affected.

Question 118. What would be the financial cost of transporting such an artifact within the country?

Answer. The transportation costs (including packing, shipping, handling, and insurance) would be dependent upon the size, value, and handling requirements of the artifact and the specific destination.

SUBCOMMITTEE RECESS

Senator GORTON. I thank you very much. The subcommittee will stand in recess until 9:30 a.m., Wednesday, March 22, when we will receive testimony from the Fish and Wildlife Service.

[Whereupon, at 10:35 a.m., Wednesday, March 15, the subcommittee was recessed, to reconvene at 9:30 a.m., Wednesday, March 22.]



DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

WEDNESDAY, APRIL 26, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:03 a.m., in room SD-116, Dirksen Senate Office Building, Hon. Slade Gorton (chairman) presiding.
Present: Senators Gorton and Burns.

DEPARTMENT OF ENERGY

ASSISTANT SECRETARY FOR ENERGY EFFICIENCY AND RENEWABLE
ENERGY

STATEMENT OF CHRISTINE A. ERVIN, ASSISTANT SECRETARY FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY

ACCOMPANIED BY:

TOM GROSS, DEPUTY ASSISTANT SECRETARY FOR TRANSPORTATION TECHNOLOGIES

ROBERT KRIPOWICZ, ACTING DEPUTY ASSISTANT SECRETARY FOR HOUSE LIAISON, CONGRESSIONAL AND INTERGOVERNMENTAL AFFAIRS

DENISE SWINK, DEPUTY ASSISTANT SECRETARY FOR INDUSTRIAL TECHNOLOGIES

MARY FOWLER, OFFICE OF TECHNICAL AND FINANCIAL ASSISTANCE

MARK GINSBERG, FEDERAL ENERGY MANAGEMENT PROGRAMS

PETER FOX-PENNER, PRINCIPAL DEPUTY

OPENING REMARKS OF SENATOR SLADE GORTON

Senator GORTON. Good morning. We will bring this meeting to order to hear testimony on energy conservation from various people in that Department.

And you, I take it, are Christine Ervin.

Ms. ERVIN. I am.

Senator GORTON. All right. Do you want to introduce yourself and those who are accompanying you and give us an opening statement?

INTRODUCTION OF ASSOCIATES

Ms. ERVIN. Yes; I would.

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I am Christine Ervin, Assistant Secretary for Energy Efficiency and Renewable Energy. And at the table I have Tom Gross, who is the Deputy Assistant Secretary for Transportation Technologies, and Bob Kripowicz, who in his last official function in our office as Deputy Assistant Secretary for Building Technologies, is going to join the Secretary's staff. And we are very sorry to lose him, but I am glad that he is here today.

I also have Denise Swink, who is the Deputy Assistant Secretary for Industrial Technologies. And we have Mary Fowler from the Office of Technical and Financial Assistance, and Mark Ginsberg, who heads up our Federal Energy Management Programs. Also, Dr. Peter Fox-Penner is my Principal Deputy.

So we are here to answer any questions that you have.

I would like to give about a 5-minute overview to our request. Senator GORTON. That is fine. We will be happy to hear it.

SUMMARY STATEMENT OF CHRISTINE ERVIN

Ms. ERVIN. I do thank you for the opportunity to present the fiscal year 1996 budget for the energy efficiency programs before this subcommittee. This request of \$890.6 million provides us with an opportunity to make investments that yield significant benefits for consumers and businesses alike.

With these programs American families will save \$10 billion each year in home utility bills by the year 2000. U.S. businesses will save at least \$6.6 billion in their energy costs in addition to several billion more by avoiding industrial waste pollution costs. Federal Government utilities will decrease by at least \$400 million a year.

Even in this constrained budget environment, our appropriation is an investment that returns more to American taxpayers dollar for dollar than they pay in taxes. This is not supposition, by the way.

We have a strong record of success stories, many of which are annotated in this booklet that I will leave for the members of the subcommittee.

Our work also helps domestic energy firms, many of whom are small businesses, remain competitive in this huge, fast-growing world market.

To give you an illustration, Mr. Chairman, the market for energy and environmental technologies is estimated to be about \$425 billion a year by the year 2000.

If we can help American firms gain just one-tenth of 1 percent more marketshare, the increased revenue will more than equal our entire appropriation.

Now these aggregate numbers may sound a little abstract. I realize that. Let me attempt to make them more meaningful by sketching out some of the highlights of our individual programs.

TRANSPORTATION TECHNOLOGIES

In the transportation sector, Americans are driving 43 percent more miles a year, and efficiency improvements in new vehicles have leveled off over the last several years.

As a result, oil imports have returned to the record highs of the 1970's and are projected to increase to 60 percent of our total use

by 2010, 70 percent by 2020. In short, about 40 percent of our entire national trade deficit is taken up with the importation of foreign oil.

In response to this, our budget requests \$258.5 million for programs in the Office of Transportation Technologies. The largest part of this, about \$161 million, is for an assembly of programs that is captured under the umbrella called Partnership for a new generation of vehicles, which integrates and expands our work on electric and hybrid vehicles, fuel cells, engine research, and advanced transportation materials.

In partnership with the major U.S. auto manufacturers and their supplier network, the goal of this program is to produce a prototype in the year 2004 that will triple the mileage of the average American sedan at no additional cost to consumers and no sacrifice in safety or performance.

The second major emphasis in our transportation sector is for a variety of activities to support a self-sustaining market for alternative transportation fuels.

Those activities range from research and development to demonstrations and testing, and information programs, all woven together by a growing voluntary network of about 35 clean cities committed to over 300,000 non-Federal alternative vehicle purchases.

INDUSTRIAL TECHNOLOGIES

In the industry program, our industrial technologies request of about \$170 million addresses industry's pressing needs to reduce energy costs, increase flexibility, productivity and reduce environmental compliance costs. Industries spend about \$100 billion a year on energy costs and another \$53 billion complying with environmental regulation.

Our technologies provide one of the few win-win solutions available for reducing energy costs, preventing pollution, increasing productivity and competitiveness simultaneously.

In the area of industrial technologies, our fiscal year 1996 request includes three major elements. First, the industries of the future process has raised our interaction with key energy-intensive industries, like pulp and paper, to new heights.

The industries, which account for about 40 percent of manufacturing investment and about 5 million jobs in this country, are working with us as never before to make their industries better and cleaner.

Our second major thrust in the industry program is for the advanced turbine systems project, which we hope the subcommittee will continue to strongly support.

And finally, we are requesting extremely modest expansions in the number of voluntary partnership programs, including those designed to address motors and pollution prevention.

BUILDING TECHNOLOGIES

At \$200 billion a year, the energy costs in buildings are the largest single element in our Nation's energy bill.

Our fiscal year 1996 request for the Office of Building Technologies—and included in that would be the Federal Energy Management Program is about \$152 million total, which is about a \$37 million increase from fiscal year 1995.

Through a variety of programs, this increase is intended to deliver \$10 billion per year of energy cost savings to the residential sector and similar amounts to commercial building owners and operators, a massive return on Federal investment.

In fiscal year 1996, the major new thrusts in this area continue a balance between cutting edge R&D and accelerated deployment of energy efficient technologies.

In the Building America Program, for example, as well as in our laboratories, we are pushing ahead with new consortia, new construction techniques, new windows, new forms of lighting and other cost-shared R&D.

Of equal importance, we have made great strides this year in our residential, commercial and Federal energy partnership programs. Let me just give you two examples in this area.

We are proposing to expand our pilot program with HUD-assisted housing so that more than 1 million federally supported housing units can be retrofitted by private energy efficiency firms and utilities, reducing HUD's operating costs by about \$300 million a year.

We are very proud of that achievement. It is something we have talked about for years. We finally have a formal agreement to do that.

We have also teamed up with the National Association of Homebuilders in work that will us to work much more intensively with them to ensure that homebuilders profit by building energy efficient houses.

TECHNICAL AND FINANCIAL ASSISTANCE

Our request for the Office of Technical and Financial Assistance, about \$321 million, is less than 1 percent above our fiscal year 1995 appropriation for this office. But the absence of any major increase does not reflect a reduced commitment or lower level of effort.

Instead, our request concretely demonstrates our commitment to finding better ways to leverage our resources and work more efficiently.

Two principal innovations have allowed us to maintain level funding in this office in fiscal year 1996. First, we are in the process of developing streamlined financial assistance procedures for our State grant programs.

When completed, we think this innovation will allow us to reduce Federal and State administrative costs while giving States and their customers more flexibility and service for the programs.

Similarly, the weatherization program has continued to modernize and improve its effectiveness at leveraging additional resources with new computerized auditing techniques and streamlined program rules.

The program is now using the most modern energy efficiency practices in the field to deliver services to low income households across the Nation.

INTEGRATED RESOURCE PLANNING

Finally, Mr. Chairman, I would like to say a word about the Integrated Resources Planning Program. You may have heard there is no longer a need for the program because the utility industry is becoming more competitive.

Mr. Chairman, nothing could be further from the truth. Changes in the utility industry are placing unrelenting burdens on State governments around this country, and we are facing an explosion of requests for our assistance under this program.

I do not think we can walk away from our duties to help States with this extremely complex and important problem.

PREPARED STATEMENT

In closing, Mr. Chairman, let me assure you that all of us at the Department and all of us sitting here at the table and behind me, understand the need to control Federal spending.

Over the years, the subcommittee has shown that it understands that energy efficiency is a good investment with excellent payoffs, and we hope you will stay the course.

Thank you very much.

[The statement follows:]

STATEMENT OF CHRISTINE A. ERVIN

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to discuss the Department of Energy's FY 1996 budget request for Energy Efficiency programs of \$890.6 million. The programs the Subcommittee is responsible for will enable consumers and businesses to choose those energy services that best fit their needs while lowering costs, facilitating economic growth, and lowering energy-related pollution. This is accomplished through a balanced portfolio of research, development, and technology deployment programs that together will save consumers and businesses more than \$18 billion in energy costs and create 260,000 jobs by the year 2000.

Our portfolio of programs produce substantial domestic economic benefits that are public in nature, which the private sector, therefore, cannot be expected to capture fully. Our programs lead to economic growth and job creation -- for U.S. business, energy efficient technologies can lower operating costs and raise productivity. The investment and spending increases that are made possible from energy savings will create jobs and make industry more productive domestically and more competitive globally.

We believe that our programs will help attain our desired goals of economic security and environmental quality for our Nation and its citizens. With oil imports at record levels, our programs to develop and improve energy efficient technologies and alternative fuels will reduce import dependence and the vulnerability of the U.S. economy from future oil price volatility. An additional environmental benefit provided by our programs is enhanced environmental quality in our cities and our Nation without costly mandates. Our technologies provide win-win solutions and are the best alternatives to costly environmental legislation.

While the long-term benefits of our programs are substantial, we are delivering meaningful results today. For example, in the mid-1980's, American taxpayers invested several million dollars to develop electronic ballasts, which improve the efficiency of lighting systems by up to 30%. The technology had been plagued by technical failures that prevented the industry from producing it commercially. Facilitated by the DOE research, electronic ballasts successfully entered the market and today account for 23% of ballasts sold, generating an estimated \$700 million in energy savings for the same taxpayers who funded the original research. More broadly, we have developed and facilitated the introduction of 130 new energy technologies that are commercially available today. In other areas, 1200 private organizations have joined together to form 34 "Clean Cities" to promote the use of alternative fuel vehicles. Each year, more than 115,000 low-income homes are weatherized, which lowers energy costs, and improves safety and comfort for low-income families. Based on investment facilitated by the Federal Energy Management program since the late 1970's, the Federal government will save more than \$500 million in energy costs over the next two years. Achieving these results consistently has been the key to the long-term success of our programs.

As we continue to pursue these objectives, we are very conscious about how we deliver our programs. We employ four main business principles, which are: 1) Our programs are designed to stimulate and complement the private sector -- not replace it. We design our programs to ensure that the Department's role is essential and unique, and that we are not doing something that the private sector or other public agencies are already doing, or could do better. 2) We seek a minimum Federal presence. Whether our objective is a breakthrough technology or a better-insulated residence, it is our partners who are empowered to do the job. Also, we believe that voluntary partnerships are a viable alternative to traditional government mandates and regulation in most areas. 3) We use small amounts of Federal funding to leverage large private investments. Virtually all of our research is cost-shared by industries, utilities, or other partners. 4) We believe in setting clear goals so that we may be held accountable for the results of our programs.

Transportation Technologies

The Department requests \$258.5 million for programs managed by the Office of Transportation Technologies (OTT). This increased level of resources reflects the importance of continuing to build a solid foundation for a "revolution" in transportation. The percentage of U.S. oil use which we import has recently passed the 50% mark; it is projected to exceed 60% before the year 2010. To counter this trend, we must develop and deploy advanced vehicle technologies with radically improved fuel economy; understand the unrelenting growth in vehicle miles travelled; and accelerate the introduction and widespread use of fuels other than petroleum. While reducing our import vulnerability is vital to our national interests, current price signals make fuel economy very low on the list of attributes consumers seek when making vehicle purchases. Thus, the automotive industry and its suppliers are not inclined to make the required high-risk investments on their own.

The Partnership for a New Generation of Vehicles (PNGV), for which the Department of Energy is the major contributor, provides a mechanism to properly integrate government and industry efforts needed to achieve major travel economy advances in light duty vehicles. PNGV goals and our DOE program goals were similar when the PNGV program was announced--and continue to be closely linked. Therefore, DOE has worked closely with industry and other agencies on PNGV planning--and we are integrating our own OTT activities so as to increase the probability of successfully achieving an 80 miles per gallon mid-size sedan. The funding, \$192.6M, requested for Heat Engine Technologies, Electric and Hybrid Propulsion Development, and Materials Technology supports working in partnership with industry on technology development and solutions. The concept underlying our budget request is support for development and proving of needed technologies. The next step for these technologies, commercialization, will be carried out by the private sector.

The FY 1996 budget request for development of advanced vehicle propulsion technologies is \$188.8 million. Activities which also support the Partnership for a New Generation of Vehicles, which will be 50% cost shared by private funds, accounts for the majority of this budget, \$161 million. The thrust of this effort is the development of the mid-size, 80 miles per gallon prototype car by 2003 with no sacrifice in safety, cost, or performance. To meet this goal, DOE's program will fund a number of technology development efforts including lightweight materials, fuel cells, fuel reformers, hybrid propulsion systems, and improved vehicle energy storage.

Competing successfully with conventional propulsion systems and fuels will continue to be a daunting challenge. Our current cars and trucks have the benefit of decades of refinement in design, materials, and production techniques; reliability; low operating costs; and ease in refueling. Changing current fuel use and emissions projections will require successful development and deployment of new vehicle technologies. This is an endeavor that will require sustained commitment, significant investment, and willingness to pursue multiple technology paths.

The objective of the Alternative Fuels Utilization FY 1996 programmatic request of \$55.6 million is to reduce our dependence on imported oil, as well as environmental emissions, through economical introduction and commercialization of alternative transportation fuels. Achieving this objective will require the establishment of sustainable alternative fuel and vehicle production industries, and extensive private sector investment in supporting infrastructure. Markets for the products of these industries will be based on the confidence of consumers in the performance, reliability, and cost-effectiveness of those products. This program is about building that confidence by weaving together a variety of activities.

- Fleet owners, fuel providers, vehicles manufacturers, and State and local governments will be encouraged to cooperate on voluntary programs, which can

accelerate the growth of alternative fuel vehicles by assuring initial markets.

- Based on test and marketplace results, improvements will be made in vehicles through research, development, and further testing.
- Current, accurate, reliable information on alternative fuels, and the vehicles which operate on them, will be made available.
- Rigorous, structured programs to test and evaluate alternative fuel vehicles, and to compile the resulting data, will provide the best available information.

With fleets paving the way for higher volume, lower cost vehicle production, and the installation of refueling capability, the goal is to make alternative fuel vehicles the choice of many individual private vehicle purchasers by the year 2000.

A successful example of how we strive to make our programs work can be illustrated by our Clean Cities program. The Clean Cities program is a government and industry based partnership, coordinated by DOE, to expand the use of alternatives to gasoline and diesel fuel. By the end of 1994 this program had created partnerships in 34 cities throughout the country and garnered voluntary commitments for 300,000 alternative fueled vehicles by the year 2000. This program, in concert with our federal vehicle purchases and our other activities within the Alternative Fuel Vehicle program, is the anchor of our whole approach of attaining a cleaner urban environment and reducing our dependence on imports.

As our transportation system incorporates new propulsion technologies and fuels, the American economy and environment will realize significant benefits. It is estimated that by the year 2000 the impact of these programs could save consumers \$1.8 billion through reduced energy costs, create over 62,000 new jobs, reduce petroleum use over 75 million barrels per year, and decrease environmental emissions by more than 6 million metric tons.

Industrial Technologies

The Office of Industrial Technologies (OIT) helps American industry develop energy efficiency and renewable energy technologies that can lower costs, increase productivity, and prevent pollution. Since its inception in 1976, the Office of Industrial Technologies has helped industries develop and adopt new technologies through programs that produce more than \$2 in economic benefits for every \$1 in Federal spending. Since 1978, the office has invested \$1.1 billion in Federal funds, which produced more than \$3.4 billion in energy savings and increased capital productivity for American industries. These programs helped increase employment in the industrial sector in 1993, and prevented 7.3 million tons of carbon dioxide and many regulated pollutants.

In FY 1996, we are proposing a budget of \$172,867,000 to support base programs, to increase the most successful programs and to support a consolidated effort responsive to the needs of energy- and waste-intensive industries. This request represents an increase of \$37,674,000 over the FY 1995 budget. Significant areas of activity are the Advanced Turbine System program (\$26.0M), the Partnership for a New Generation Vehicle (\$12.7M), and the Environmental Technology Partnerships (\$15.7M). The FY 1996 investment provides one of the best returns for the American taxpayer because our programs help lower costs while retaining and generating new jobs.

OIT's strategy for working with the nation's most energy- and waste-intensive industries is called Industries of the Future. This strategy helps align DOE's scientific and engineering resources and expertise with the research needs of the chemical, pulp and paper, petroleum refining, steel and aluminum foundries, and glass industries to identify profitable new and cleaner technologies. These industries, comprising small, medium and large businesses, collectively employ 4.2 million workers, consume more

than 80% of the energy used by U.S. manufacturers, produce more than 95% of industrial waste and air emissions, and account for 40% of U.S. manufacturing investment. The health of these industries is essential for maintaining a sound national defense capability.

Gas turbine technology is now meeting two-thirds of the demand for new capacity and the need to upgrade or replace existing steam powerplants. Increases in Advanced Turbine Systems (ATS) reflect OIT's participation in a joint 8-year, public-private partnership to develop an advanced gas turbine that will significantly improve overall thermal efficiency. Central to this effort are improvements in high-temperature materials, which offers critical support for the advanced turbine effort. The ATS partnership of more than 100 members includes many corporations, universities, EPA and DOE's Fossil Energy.

OIT is supporting the national Partnership for a New Generation of Vehicles by developing new technologies in the areas of materials, manufacturing, and recycling. The need for this program derives from the simultaneous effects of global cost competition, increasing environmental concerns and the need for cleaner and "greener" vehicles. OIT is developing new, economic and cleaner manufacturing technologies with specific goals of saving energy and reducing residues of obsolete vehicles which may be otherwise land filled. These contributions support the partnership and enhance the competitiveness of the U.S. auto industry.

As part of the Industries of the Future strategy, the Environmental Technology Partnerships will place additional resources to expand activities already in the base program or new, promising activities fitting the industry view of technologies needed in the future. Through partnerships, industries with vision and R&D agendas could compete for funds to develop systems-based approaches that reduce wastes and lessen environmental damage. This voluntary program with industry encourages participation with DOE, the DOE laboratory system and multiple segments of industry.

To conclude, OIT programs produce results. Our programs are expected to reduce annual industrial primary energy consumption by 0.70 quadrillion Btu in 2000 and four quadrillion Btu in 2020, including about 146 million barrels of oil. Annual use of renewable energy in industry increases by 0.69 quad by 2000, 1.3 quads by 2010, 1.9 quads by 2020. The programs reduce annual emissions by nine million metric tons of carbon-equivalent in 2000, 34 million metric tons in 2010, and 70 million metric tons in 2020, with associated decreases in regulated air, water and toxic pollutants. OIT programs are expected to result in savings of \$3 billion in direct energy costs annually by 2000, \$13 billion by 2010, and \$24 billion by 2020 (in 1992 dollars).

Building Technologies

Energy consumed in buildings is 36% of all U.S. energy use, with a total bill of close to \$200 billion each year. To capture the tremendous opportunities to lower energy costs, the DOE operates a strategic array of programs in the buildings sector, including collaborative deployment of high efficiency technologies, minimum efficiency standards for equipment and buildings, research and development on advanced technologies, and the Federal Energy Management program. The FY 1996 request for programs in these areas is \$152.5 million, an increase of \$36.9 million from FY 1995 appropriations. These investments, co-funded heavily by private partners, are expected to save consumers more than \$13 billion annually by 2000.

The technology deployment programs focus both on introducing specific technologies through programs such as the Technology Introduction Partnership program, as well as targeting individual markets for energy efficient technologies. OBT's key programs focused on existing commercial buildings and housing are described below. Rebuild America is the office's flagship for deploying technologies in existing

commercial buildings through public/private partnerships at the regional and local level. The request for Rebuild America rises in FY 1996 to \$19.8 million. The Rebuild America partnerships include community organizations, private businesses, utilities, and others working together to promote building retrofits for commercial buildings. These retrofits will save businesses an estimated \$650 million in annual energy costs by 2000, and increase workers' comfort and productivity. The Energy Partnerships for Affordable Homes program is the office's key program for dramatically improving the efficiency and affordability of U.S. homes by working together with builders, States, utilities, HUD, equipment retailers, and others. The request in FY 1996 is \$12.1 million, which includes funding for five key areas: 1) promoting a nationally consistent home energy rating system; 2) supporting the expansion of financing products for energy efficiency; 3) providing education and recognition for energy efficient builders; 4) working with retailers to promote energy efficient products; and 5) providing training and other assistance to HUD and Habitat for Humanity to lower the energy costs of low-income housing. Within 5 years, this program will lower energy costs for homeowners and tenants by \$1.2 billion annually, as well as increase their safety and comfort.

Complementing these deployment programs is OBT's Congressionally-mandated energy efficiency standards for equipment and buildings. In FY 1996, we request \$11.8 million for Building Standards and Guidelines to assist States in upgrading their building codes. The request for Lighting and Appliance Standards remains virtually unchanged at \$10.4 million in FY 1996. Efforts are underway to streamline the rulemaking process and promote a consensus-building standards development process, as was achieved this year for refrigerators.

The third key component of the building sector request is our industry-supported research and development, increasing to \$42.6 million in FY 1996 from a FY 1995 level of \$36.5 million. Research and development ensure that improvements in building efficiency are sustained and continue in the long-term. Funding for buildings R&D includes programs to develop new technologies, as well as programs that seek to improve the whole building efficiency through improved construction techniques, system integration, and designs. Some examples are described below. The Building America supports industry consortia that are working to develop integrated construction practices, which will result in new homes that use 50% less energy, produce 50% less construction waste, and cost no more to build. The Lighting Research Program will work with industry to develop light sources that consume 50% less energy than conventional lights. This will include continued development of the Sulfur lamp, demonstrated this year in the Smithsonian's Air and Space Museum. The Windows and Glazings program will include a government-industry partnership to commercialize electrochromic windows by FY 1999, potentially reducing lighting and air conditioning use by 20%. The Thermally Activated Heat Pump program will continue to work collaboratively with the gas industry to complete development of with both residential and commercial building applications. These new heat pumps can reduce energy used for heating and cooling by 50%, eliminate the use of CFCs and HCFCs, and lower carbon and other emissions by 60% versus conventional technology.

The final component of the building sector request is the Federal Energy Management Program (FEMP). The FY 1996 request for FEMP is \$25.4 million, up 8% from FY 1995. FEMP's efforts have already helped to reduce federal energy costs by more than a half billion dollars over the last two years. With a new emphasis on the use "Energy Savings Performance Contracts" which "privatize" the retrofit of federal facilities, the results can be significantly increased. FEMP will make projects happen that will save taxpayers \$400 million annually in 2000 and that number will increase to \$1 billion annually by 2005. Also by the year 2000, FEMP will achieve a 20% reduction in the energy use of the federal agencies, create 10,000 new jobs, leverage more than \$1 billion in private sector investments and prevent the release of 30 million metric tons of carbon equivalent and other pollutants. The FY 1996 budget for the Federal Energy Efficiency Fund alone will reduce the government's energy costs by \$150 million through by awarding to agencies 100-150 grants that leverage more projects.

Technical and Financial Assistance

The FY 1996 budget request for the Office of Technical and Financial Assistance is \$321.2 million, less than 1% over the FY 1995 Appropriations. The Office operates financial incentive, technical assistance, and information programs, for states, local governments, nonprofit organizations, inventors and individual consumers. Through state and local partnerships these programs enable states and localities to deliver energy services to consumers in their jurisdictions.

The Department has requested \$229.0 million for the Weatherization Assistance Program. This request allows for the continuation of the formula change which would maintain the cold weather state programs while providing greater equity through increased funding to warm weather states, as directed by this subcommittee. To date, the Weatherization Assistance Program has lowered the energy costs of more than 4.4 million homes. A comprehensive evaluation of the program's effectiveness conducted by Oak Ridge National Laboratory (ORNL) demonstrated that the typical single-family household experienced a reduction of 18.2% in its space heating energy consumption as a result of weatherization, saving 17.6 Mbtu of energy. The typical household weatherized in 1989 had an annual income of only \$7,641 so that savings on this scale had a significant positive value to the household's budget, as well as conserving energy. In FY 1996, the program will weatherize more than 116,000 homes, support over 17,000 jobs and save 0.002 quads of energy. State and local agencies have leveraged more than \$200 million each year to increase the number of assisted homes to about 230,000 annually. The FY 1996 funding (DOE Appropriation plus leveraged resources) will produce \$1.9 billion in energy cost savings and a reduction of 5.2 million metric tons of carbon emissions cumulative over the next 20 years.

The Department has requested \$24.7 million for the State Energy Conservation Program (SECP) which provides cost-shared grants to states to develop and implement energy management programs that reflect their unique energy needs, circumstances and opportunities. Since 1983, the program has implemented over 8,000 projects and leveraged \$19 for each \$1 of SECP appropriated funds. The program will continue assisting states to achieve their goal of a 10% or greater improvement in energy efficiency by 2000.

The Department has requested \$26.8 million for the Institutional Conservation Program. It provides cost-shared (50/50) grants as an incentive for schools and hospitals to make cost-effective improvements in their building envelopes, mechanical systems and operations and maintenance procedures. From FY 1979 through FY 1994, \$947 million in appropriations have resulted in cumulative savings of \$6.1 billion in nearly 70,000 buildings. In FY 1996, the program will support improvements in 1,254 schools and hospitals, which is expected to result in energy cost savings of \$14 million in the first year and will support 1,190 jobs.

The Department has requested \$1.8 million for the Municipal Energy Management Program (MEMP) which supports local government projects that demonstrate innovative, realistic strategies to help communities become more energy efficient and promote economically and environmentally sustainable growth. Through FY 1994, the program has leveraged \$4 for each \$1 of grant funds.

The Department has requested \$8.8 million for the Energy Related Inventions and Innovation Program which will continue to provide financial and technical assistance to small businesses and individual inventors. The \$3.0 million increase over the FY 1995 appropriation will support the solicitation of proposals for the Partnership for a New Generation of Vehicles Initiative and the Industrial Pollution Prevention Initiative. Since its inception in 1975, the program has made \$42 million in technology development grants, with a return of \$31 in benefits for every dollar invested. The annual income tax revenues generated from the sale of products and services through this program are now greater than the program's yearly budget.

Utility Program

The electric utility industry has entered a period of dramatic change, moving toward a competitive structure. States, and the utilities that serve them, are looking to the Department's Integrated Resource Planning/Demand-Side Management Program for assistance in finding new ways to plan for and acquire resources to meet customer needs in this competitive environment. These changes are placing enormous burdens on state governors, legislators, and regulators, all of whom share an interest in providing for constructive change in this complex area. As a result, our Integrated Resources Planning program has received greatly increased demands on its resources from every stakehold group. The budget request for FY 1996 of \$9.9 million, an increase of \$1.1 million over FY 1995, reflects the Department's attempt to respond to this need. The FY 1996 Program is being reoriented to provide much more direct service to states and utilities through technical partnerships with states, a voucher program to provide direct financial assistance to state agencies and public power utilities for technical training, and a state innovation program to support market-based approaches to meeting resource planning objectives. The Program also will provide critical funding for the National Association of Regulatory Utility Commissioners and the National Conference of State Legislatures through a collaborative effort called the National Council for a Competitive Electric Industry. Finally, the FY 1996 request would provide continuing support for the Department's well-regarded work supporting demand-side management data collection and program evaluation tools and techniques for customer-supported DSM programs.

International Market Development

Many domestic energy efficiency firms have emphasized to us that strong domestic and international markets go hand-in-hand. To strengthen our domestic industries, international market development activities capitalize on the growing opportunities for U.S. energy efficiency companies in global markets -- markets that currently exceed \$80 billion per year. The FY 1996 budget request of \$5.1 million is an increase of \$2.2 million, which will ensure that the programs can provide industry-requested export assistance and eliminate market barriers. The request includes \$1.9 million for the Committee on Energy Efficiency Commerce and Trade (COEECT) to expand the scope of activities and provide coordinated support to encourage U.S. energy efficiency exports. The \$0.9 million requested for the valuable Energy Efficiency Centers will ensure continued access for U.S. firms. The Energy Efficiency Center in the Czech Republic has already assisted one Texas firm obtain \$30 million of energy efficiency service contracts. --- The tax revenue to the United States treasury from these contracts alone is greater than \$1.5 million, the original government funding for all the centers combined -- not to mention jobs we create here and abroad and the foothold we gain in a huge foreign market. In fact, if we can help our industries gain just six one-thousandths of one percent more market share in foreign markets for our products -- a figure I'm sure we can exceed -- These revenues will equal our modest spending in this area.

Mr. Chairman, thank you for the opportunity to testify on behalf of our programs. I will be happy to answer questions.

FISCAL YEAR 1996 BUDGET PRIORITIES

Senator GORTON. Your last point clearly leads to my first question. I am sure that you are aware of the fact that there is an overwhelming determination in both houses to reach a budget agreement for 1996 that will put the country on a path to a balanced budget by the year 2002, and that means that general appropriations across the board will be considerably lower than those recommended in the President's budget.

My estimate is that this subcommittee for 1996 is likely to have a reduction of at least 10 percent, and maybe close to twice that, in nominal dollars than it had at its disposable for the current fiscal year.

The areas over which you preside have been increased very substantially over the last several years. And assuming that there will have to be significant cuts in the double digits by percentage, not only from what you have asked for but very likely from your current year's appropriations, how do you set your priorities?

Would you tend to want a reduction across the board for all of these programs, or are there some of them that are so important to you that you would want them to stay steady or even to increase, in spite of the fact that it might mean that some other program were wiped out entirely?

Ms. ERVIN. Well, first let me say that we will work with you in your budget constraints, with you and with your staff, to give you as much information as we can on our priorities, individually and by programs and the kinds of impacts and tradeoffs that you face when you make those kinds of decisions.

I would want to maintain an appropriate balance between the longer term research and development and the shorter term technology deployment. I think it is very, very important for us to keep in the pipeline the stream of technologies—

Senator GORTON. Well, it seems to me you have those two and you have what we might call, without trying to be pejorative, welfare types of programs for lower income people. So you have at least three general kinds of programs, and maybe you have one beyond that. So give me your critique with respect to all of those.

Ms. ERVIN. And we do; as Bob was mentioning, we have a small regulatory set of programs as well.

Senator GORTON. OK. All right. Then that is a fourth area.

Ms. ERVIN. I would not do it across the board. I would want to look very carefully at criteria like, biggest bang for the buck and which programs are most effective in delivering returns.

As I said, I would want to maintain a balance between longer term and shorter term research and development. I would want to look at those programs that have very, very strong customer and stakeholder support.

Senator GORTON. Yes.

Ms. ERVIN. Those are the types of criteria I would consider.

Senator GORTON. Well, let me press you a little bit further.

Ms. ERVIN. OK.

Senator GORTON. Right now we would ask you which of these programs that you have described to me do you think gives us the biggest bang for the buck?

Ms. ERVIN. The single program. Oh, I—

Senator GORTON. No, no; not which single, but among the group, which would you rank high on cost effectiveness?

Ms. ERVIN. Well, that is hard for me to respond to today. I will be happy to get back to you on that.

Senator GORTON. OK.

Ms. ERVIN. But part of it depends on the timeframe that you are looking at. If we were to look at programs that provided the highest return in the next 2 years, it would be much, much different

than if we were looking at highest return over 6 or 7 years. That is why I need to be careful in the way that I respond to you.

Senator GORTON. Well, that is perfectly appropriate as a response now, but it is a response that we are absolutely going to have to——

Ms. ERVIN. You bet.

Senator GORTON [continuing]. Require, if we are going to do our job responsibly and with whatever amount of money you have available for your programs. You will be able to utilize them in the best possible fashion. So if it is——

Ms. ERVIN. You bet. We will work with you to provide that information.

Senator GORTON. I am sure it is not going to be an easy or a pleasant task for you, but I think it is going to be a most important one. But let us try to judge that perhaps in the field of conservation, looking backward.

ENERGY CONSERVATION SUCCESS STORIES

In the last several years, about \$2.5 billion has been invested in energy conservation programs. What tangibly have the people of the United States received in programs which are in effect, which they can actually utilize for that investment?

Ms. ERVIN. Well, I could point to a number of things. And again. I am going to respond in more fullness for the record. We have some of the success stories identified here.

If you were to look at immediate impacts of programs that we have funded in the last 2 years—and, of course, many of these programs pay off over a slightly longer time—but take our Federal Energy Management Program, for example.

That program has the lead role in Federal Government for reducing energy bills by about 30 percent over the next 6, 8, 10 years.

In our own Forrestal Building, for example, we completed a whole new relighting project about 1½ years ago that is saving us about \$300,000 a year.

Senator GORTON. What did it cost, though?

Ms. ERVIN. It cost, I believe—what was the total?

Mr. GINSBERG. \$1.3 million.

Ms. ERVIN. Right.

Mr. KRIPOWICZ. But there was no capital cost for the Federal Government because of the utility incentive and private sector investment through an energy savings performance contract.

FEDERAL ENERGY MANAGEMENT PROGRAM

Ms. ERVIN. And that is a key objective, as Mark Ginsberg has just noted, in our Federal Energy Management Program. We have a small amount of Federal appropriations to provide seed money and to help agencies, but the bulk of our work we want to accomplish through the private sector, through utilities and through these ESCO's, as you would call them.

So there is one saving just in our building alone. In your State, we have the largest retrofit in all the Federal facilities right now underway at Fort Smith. As you know——

Senator GORTON. Lewis.

Ms. ERVIN. Fort Lewis, sorry. [Laughter.]

You do not have a Fort Smith.

Senator GORTON. And the other one, we do not care too much about. [Laughter.]

Ms. ERVIN. Now on Fort Lewis, you know, there are many, many buildings. I have not visited it personally, but I am familiar with some of the statistics, over 4,200 buildings.

And it is going to be a major retrofit that is going to save energy bills that are about \$5 million a year by maybe 20 to 30 percent. Again, that is a case where we are working with the Takoma municipal utility to help us with those projects.

Senator GORTON. And, of course, you are dealing with buildings owned by the Federal Government.

Ms. ERVIN. Oh, yes; that is right.

So those are immediate tangible things that we are doing in the Federal Energy Management Program. But I would be happy to provide for the record other success stories from those kinds of programs.

Senator GORTON. That would be appreciated as well.

Ms. ERVIN. OK.

[The information follows:]

ENERGY EFFICIENCY SUCCESS STORIES

The Department's Energy Efficiency Programs have a solid record of successes which have made significant contributions to all sectors of the American economy: affordable and comfortable housing for American families; higher profits and more available capital for American businesses; pollution prevention and greater productivity for American industries; a lower foreign trade deficit and reduced dependence on foreign oil; new entrepreneurial opportunities and jobs; an increased share of the \$425 billion global market for energy and environmental technologies; and reduced Federal energy costs. Attached are illustrative examples of these successes.

SUCCESS STORIES: THE ENERGY MISSION IN THE MARKETPLACE

A Portfolio of Successful Investments in Applied Energy R&D

Energy Mission

The Department of Energy's mission and its civilian energy research and development (R&D) programs are motivated by a number of important and enduring public policy objectives. These objectives are rooted in national security, economic, environmental, and scientific leadership considerations. They reflect the pervasive role that energy plays in modern society. They are underpinned by a respectful understanding of history and of the unique vulnerabilities that our Nation faces with regard to certain aspects of long-term energy supply and end-use.

Role of Federal R&D

Accordingly, the Department's applied energy R&D programs fill an important gap in the United States' R&D continuum. This gap is where it is clearly in the *public interest* to pursue certain technological opportunities, especially those that are long-term or high-risk, but where for economic reasons it is not in the *market's interest* to do so.

The reasons for this gap are many. One is that the public benefits, such as national security or environmental quality, are simply not fully reflected in market prices. Another is that private firms are finding it increasingly difficult to recoup their R&D costs by appropriating exclusively to themselves the true benefits of the R&D. In today's highly competitive global market, technical secrets are short-lived and too easily stolen, scientists are hired away, and inventions are slightly modified in order to circumvent intellectual property rights. More fundamen-

tally, the R&D itself is often too challenging, requiring large interdisciplinary teams of scientists, working year after year on expensive and unique laboratory equipment. Finally, the structure of certain industries is often too fragmented, or the firms too small, to mount the sustained R&D campaign necessary for success.

Within this context, the proper role for the U.S. Department of Energy's applied R&D programs is *not* to subsidize or displace private sector responsibilities for R&D, but to complement them selectively in ways that will help achieve important long-term public policy objectives and that are justified by one or more of the special market circumstances outlined above.

What Successes?

So, after nearly two decades of investing in such R&D at the U.S. Department of Energy, is it fair to ask "What benefits have accrued to the U.S. economy?"

Yes, it is—and the answer is impressive. Many outputs of the Department's R&D, conducted in pursuit of its public policy objectives, not only have had substantial economic success in the marketplace, but also have proven to be fundamentally important in one technical area after another in positioning U.S. industry at the forefront of global competition. In today's markets, winning products are often those with technically driven advantages in performance and price, and the Department's R&D has contributed significantly to many of these winning products.

Among such products is the electronic ballast for fluorescent lighting fixtures that has become the lighting technology-of-choice. It has already saved U.S. electricity consumers \$750 million, a saving that grows every day. Another technology, low-emissivity window coatings, has gained a 34-percent market share of all new double-glazed residential windows.

And, the economic benefits of the Department's programs will continue well into the future. Four technologies in one building technologies R&D program are expected to net more than \$16 billion in economic savings to U.S. taxpayers by the year 2015, far outstripping the total past and projected Department of Energy investments in this area of R&D.

These statistics may surprise some critics of the Department's R&D programs. Many of the Department's most important R&D contributions lie in the "precompetitive" stages of technology development, or in important intermediate technology components, and such contributions are often hidden in the final product. Many people might recognize the technological sophistication of modern commercial trucks and diesel engines, Boeing 757 and 767 aircraft, and high-efficiency lights, windows, and appliances; but few would realize that Department of Energy technology is inside those products and is responsible, in part, for their fast-growing global market shares.

To be sure, the Department has embarked on some R&D activities without yet achieving the desired results, and some of these are highly visible and costly. As with most high-risk ventures, targets cannot always be met, both in private and public sector R&D programs. The purpose of the Department's R&D programs is to explore these high-risk technical possibilities.

Many of the bold experiments in energy demonstration projects of the late 1970s, motivated by global conflict and national security concerns over oil, are now seen in hindsight as having been too ambitious. Some expensive technology pushes are no longer supported—for example, synthetic fuels, the Clinch River Breeder Reactor, magnetohydrodynamics, and the Stirling automobile engine—because they were not economically successful, even though they produced a wealth of scientific knowledge and engineering experience. But these are only a part of the picture.

Improved R&D Productivity

More fundamentally, the Department's record of R&D productivity has steadily improved over nearly two decades of R&D investment. Management techniques for R&D have become more sophisticated and less congressionally directed. They are now squarely rooted in competition, driven by technical merit and scientific peer review, and aligned with the needs of cost-sharing industrial partners.

Economic Successes

This report compiles a brief list of some of the more significant Department-sponsored technology developments that have already had, or will have in the next year or so, significant impacts on the U.S. economy. It omits hundreds of scientifically and technically important developments and focuses only on examples of successes with major economic significance.

As a word of caution, please note that the pathway of scientific discovery, from basic research to product development, is often complex and multifaceted. Bringing a new product to market involves many players, and credit for their existence should be shared broadly. The final stages of development are almost always, as they should be, private sector interests. The products that consumers see rarely have any overt indication of an underlying Federal or Department of Energy R&D role.

This does not mean, however, that the R&D was not important, or that it would have been developed anyway if just given enough time. The examples in this report show that the Department of Energy's R&D programs played a key and enabling role in the resulting technology development. The Department does not claim credit for the final design and production of the commercial products. Nor does it wish to understate the critical importance of the private sector's role. It does want to emphasize, however, the collaborative nature of scientific discovery and technology development, with private and public actors each playing distinct and complementary roles.

R&D Management Principles

The Department's programs support high-risk, precompetitive research. The Department's applied energy R&D investments are guided by a set of R&D management principles, which limits and carefully guides the use, and guards against the misuse, of public funds for R&D. The Department supports R&D if and when serious shortfalls occur in areas of R&D otherwise important to society.

R&D Considerations

The Department of Energy's decisionmaking on investment in R&D takes into consideration the following factors:

- The overall significance of the potential benefits of the R&D to the Nation.
- The level of technical difficulty of the task and whether the overall risk of the R&D is such that private industry will not undertake the development on a timely basis.
- The nature of the R&D and whether or not an individual firm might recover its research costs by appropriating to itself the benefits of the knowledge (a "public good") it creates.
- The nature of the industry and whether the fragmented structure of an industry might work against sufficient levels of R&D spending because its firms are too small to undertake certain kinds of R&D projects.

- The distance from commercialization, where certain proprietary sensitivities otherwise might adversely affect private sector competition.

Deficit Reduction or Revenue Enhancement?

Given these considerations, the Department's funding of applied energy R&D is a well-founded, complementary public investment in the advancement of science and technology in areas critically important to the Nation's future. Upon this enabling foundation of precompetitive research and knowledge, corporate America can build and market its own commercial products, which is the proper domain of the private sector.

These successes result in new products and processes that compete successfully in global competition and employ U.S. workers in high value-added jobs, who pay taxes on their income. These technologies reduce costs to businesses and consumers, which stimulates the economic growth of the Nation and adds to corporate taxable profits, all of which return revenue to the Treasury.

Accordingly, a case can be made that an investment in the Department's applied energy R&D programs should not be viewed as a current operating expense on the deficit side of the Federal budget account, but rather as a high-risk portfolio of capital investments in the Nation's future, with a predictable portion resulting in significant economic paybacks that are already adding net revenue to the income side of the Federal ledger. These R&D investments not only produce public benefits, but make money for the U.S. Treasury.

Increasing Energy Efficiency

Energy-efficiency improvements in homes, commercial buildings, transportation, and industry can contribute significantly to offsetting increased energy demand while freeing up capital for use elsewhere. Benefits from demand reduction include avoiding costly capital investments in electric capacity, lessening reliance on imported energy supplies, and reducing harmful emissions.

The Department of Energy aims to develop cost-effective energy-efficiency technologies that protect the environment and support the Nation's economic competitiveness. To achieve this goal, the Department emphasizes carefully targeted cost-shared collaborations with public and private enterprises. U.S. industry is increasingly involved in developing and using these technologies, thanks to the efforts of the Department.

Our programs in these areas carry out the Department's responsibility under the Energy Policy Act of 1992 (EPACT) and other major pieces of authorizing legislation. The benefits of the Department's efficiency programs—to industries, homeowners, and commercial firms—can be measured in cost savings, productivity gains, new high-value jobs created, and improved productivity and competitiveness for U.S. industry. The following paragraphs highlight some of the successes that have flowed from these programs.

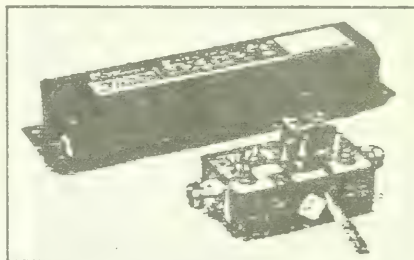
Building Technologies

Residential and commercial buildings consume more than one-third of all U.S. primary energy and

about two-thirds of the Nation's electricity. To help realize the energy security, economic, and environmental benefits of improved energy efficiency in buildings, the Department supports research and development on building systems, envelope, and equipment.

Fluorescent Lamp Electronic Ballasts

Department of Energy research and development created the current state-of-the-art electronic fluorescent lighting ballast, which was unknown in the mid-1970s. The electronic ballast not only improved lighting quality, but has saved consumers \$750 million in consumer energy bills from a \$3 million research and development investment. This new industry's sales totalled \$275 million in 1992.

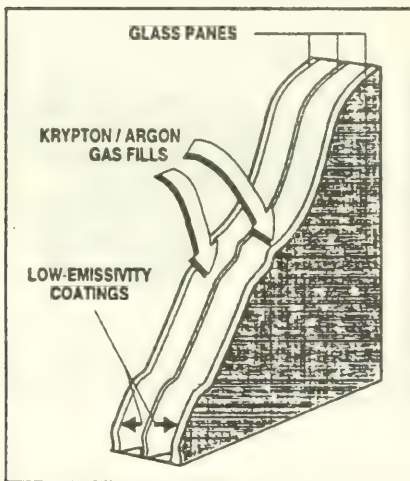


Electronic ballasts (upper) have saved consumers \$750 million. In foreground is a lab prototype electronic ballast for low power electrodeless lamps (for example, the sulfur lamp).

accounting for 25 percent of total ballast sales. Electronic ballasts are expected to replace magnetic ballasts in at least 75 percent of applications by 2015.

Advanced Energy-Efficient Windows

A 20-year Department of Energy research and development partnership with industry culminated in the development at Lawrence Berkeley Laboratory of an advanced energy-efficient window that uses low-emissivity coatings to block heat gain or loss. No U.S. manufacturer had invested in this technology before the Department's R&D investment. Cumulative consumer energy savings attributable to using low-emissivity windows are \$1.8 billion. This enormous savings was leveraged and catalyzed by a Department of Energy investment of just \$3 million through the early 1980s. The Department teamed with five window manufacturers (Andersen, Cardinal IG, Owens-Corning Fiberglass, Pella, and Southwall Technologies) and the Bonneville Power Administration to convert the concept into commercial prototypes. Today, every major glass and window manufacturer offers low-emissivity products. Their market share is one-third of all residential windows.



Energy-efficient window.

Sulfur Lamp

In October 1994, the Department of Energy and a small Maryland company, Fusion Lighting Inc., unveiled the sulfur lamp, or S-Lamp, a revolutionary new type of light system in which microwaves are used to heat a sulfur core. The S-Lamp is a scientific and technological breakthrough, considerably more efficient than even fluorescent lights, with fewer associated environmental problems. The quality of light is vastly improved, more nearly approximating natural sunlight, and the installation costs are one-sixth that of conventional lighting. At present, the new system is being demonstrated at the Department's Headquarters, where it lights the outdoor entrance to the building, as well as at the Smithsonian Air and Space Museum. Two S-Lamp bulbs have replaced 240 mercury bulbs, providing four times the light at one-third the cost. Unlike other high-efficiency lamps, the Sulfur Lamp uses no mercury and produces 50 percent less ultraviolet light. The United States uses 520 billion kilowatt hours annually for lighting. The S-lamp is expected to have enormous potential commercial and residential applications.

Computerized Analytical Tool for Energy-Efficient Building Design

Department of Energy research and development has created a powerful analytical software tool, DOE-2, for reducing energy use in buildings. DOE-2 calculates hourly building energy use and cost from information on the building's construction, climate, operation, heating, ventilating, and air-conditioning systems, and utility rate schedule. At least 5 percent of commercial buildings today are designed with DOE-2. Use of the software accounts for \$1.9 billion in energy savings for buildings constructed through 1993.

High-Efficiency Refrigerator/Freezer Compressor

From 1978 through 1980, the Department of Energy, through Oak Ridge National Laboratory, sponsored a contract with Columbus Products Co. to develop a high-efficiency compressor for household refrigerators. The resulting product achieved a 44-percent improvement over the compressor technology used in refrigerators at the time. The availability of high-

efficiency compressors was a major reason that refrigerator energy use dropped from about 1,300 kilowatt-hour per year in 1980 to about 900 kilowatt-hour per year in 1990. Use of the improved compressors pioneered by this research effort has saved consumers at least \$6 billion in energy costs from 1980 through 1990.

Flame Retention Head Oil Burner

In the early 1970s, concern with oil supply and price volatility increased interest in improving the efficiency of oil use. The Department of Energy sponsored field testing by the Oil Heat Research and Development Program at Brookhaven National Laboratory, which established the energy conservation benefits of the retention head oil burner. A second Department effort published the findings in a consumer-oriented information booklet. In several years the retention head burner achieved total dominance of the market for new and replacement oil burners. Consumer energy cost savings to date from this innovation total more than \$5 billion.

Flame Quality Indicator

The flame quality indicator, developed by the Oil Heat Research and Development Program at Brookhaven National Laboratory, has been called the most significant advance in oil heating technology since the introduction of the flame retention head burner in the 1980s. The flame quality indicator ensures that the burner operates at peak efficiency throughout the year by monitoring the brightness of the oil burner flame and warning the consumer when the burner needs maintenance. From a Department of Energy investment of slightly more than \$1 million, this technology potentially can reduce oil use by 290 million gallons per year, which represents \$3 billion to consumers over 10 years. Currently, three licensed manufacturers have entered the market. The flame quality indicator received the 1992 R&D Magazine R&D 100 award and the 1993 "Best of What's New" from Popular Science magazine.

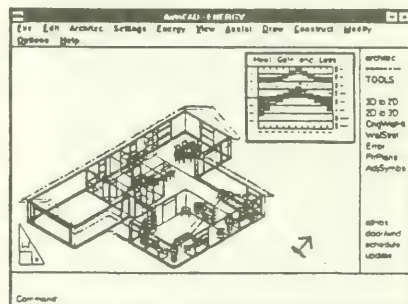
Compact Fluorescent Lamps With Convective Venting

Compact fluorescent lamps produce less light and operate at reduced efficiencies at the elevated

temperatures often associated with constricted environments (such as within recessed fixtures). A Department of Energy laboratory has received a 1994 Federal Laboratory Consortium Award for Excellence for developing a convective venting method to alleviate this problem. The cooling action produced by the convective venting yields an approximate 18-percent increase in lumen output, while increasing lamp service life from 750 to 10,000 hours. This approach has been adopted by several large fixture manufacturers (Delray Lighting, Lithonia, Kurt Versen, and Prescolite).

Softdesk Energy Building Software

A collaboration among the Department of Energy, the University of Oregon, and Softdesk, Inc., resulted in Softdesk Energy, a software building design system that incorporates energy-saving features into computer-based building designs. The program integrates specialized software, computer-aided drafting tools, and commonly used manual tools for energy-use estimation. Used during the design process, the one-of-a-kind system provides quick feedback on a building's future energy consumption. The system also determines energy use impacts from internal factors such as lighting, temperature, humidity, ventilation, and building use. Softdesk Energy requires minimal input from the architect, which significantly reduces design time and costs and encourages the exploration of energy-efficient building designs. The system is designed and equipped to incorporate other energy design



Computer software aids design of energy-efficient buildings.

tools such as code and standards compliance, lighting design tools, detailed energy analysis packages, and heating, ventilation, and air conditioning equipment selection tools. Of 167,000 computer-aided building design users, 100,000 (60 percent) are Softdesk Energy users.

Appliance Efficiency Standards

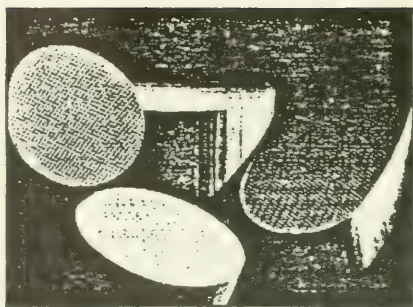
The Department of Energy is required by law to set energy-efficiency standards for a number of appliances, including refrigerators and freezers, stoves and ovens, dishwashers, water heaters, and heating and cooling equipment. The Department updates the standards to ensure that models coming onto the market incorporate the best available efficiency technologies. **These standards have already saved U.S. consumers nearly \$2 billion on their energy bills.** Consumers save \$2.50 on energy bills for every extra \$1 paid to purchase appliances meeting the efficiency standards.

Transportation Technologies

The U.S. transportation sector is still almost totally dependent on oil, and it consumes more than 60 percent of the oil used in this country. Reducing the Nation's vulnerability to oil disruptions will require major changes in the transportation sector's energy demand patterns. Achieving improvements in air quality is also linked to breakthroughs in transportation propulsion technology, as well as changes in the mix of fuels used for transporting people and freight. To accelerate the introduction of more efficient, less polluting transportation technologies, the Department's activities focus on advanced propulsion systems, improved materials, and cost and performance improvements.

Ceramic Regenerator Matrix/Catalytic Exhaust Converters for Automobiles and Heavy-Duty Engines

The Department of Energy research and development in ceramic turbine and materials programs is spawning an entirely new industry with many spin-off components. As an example, the Department's ceramic regenerator development work provided the technological "roots" for a catalytic converter that is



Ceramic substrates for automotive catalytic converters upon which platinum catalyst is deposited.

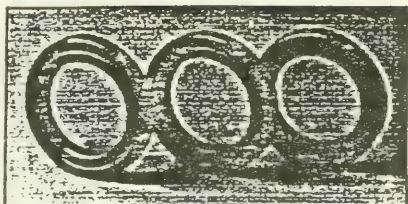
now commonly used to reduce automotive emissions. **Current sales of such ceramic components for automobiles are \$600 million per year worldwide and are expanding.** Other component sales are projected at \$1 billion and 10,000 jobs for the year 2000. Corning Incorporated holds the largest market share.

Silicon Carbide Whisker-Reinforced Ceramics

Silicon carbide whisker-reinforced ceramics developed by the Department of Energy have increased machining rates up to 800 percent and have dramatically decreased the frequency of cutting tool replacement. These advantages have allowed the United States to recapture a substantial international market share of the cutting tools industry. This composite material was developed in coordinated Department programs with a 7-year investment of \$3.8 million; worldwide sales now exceed \$30 million.

Sintered Silicon Carbide Used as a Seal Face in Automotive Water Pumps

The Department of Energy Transportation Materials Technology Program, with the Carborundum Company, has developed an improved sintered silicon carbide (ceramic) seal face for water pumps. These seals are used in 30 percent of new U.S. automobiles—up from 5 percent in 1993. Shipments will total 10 million seal faces this year for worldwide



Sintered silicon carbide steel faces for automotive water pumps.

markets. A Department of Energy investment in mechanical characterization of approximately \$500,000 over a 5-year period has resulted in a potential worldwide market for these seals in excess of 65 million units per year.

AC Electric Drive Train

Under a cost-shared contract with the Department of Energy, the Ford Motor Company and General Electric have developed a new electric drive train. This drive train uses one design for a wide range of production vehicles. This new multivehicle design will reduce consumer costs and allow electric vehicles to enter the market sooner. Ford is testing this technology in 105 Ecostar electric vehicles operating around the country. The California laws mandating zero-emission vehicles will result in approximately \$70 million in electric vehicle sales in 1998 (the only current solution to the California mandates), growing to \$350 million by the year 2003. Should the New England states implement the California mandates, the market will grow to at least \$1 billion by 2003.

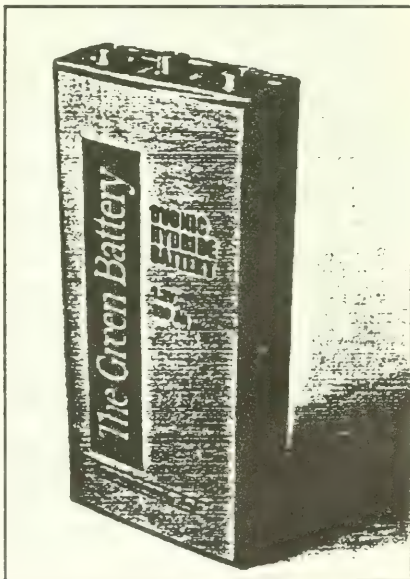
Ceramic Material Heat Engine Components

High melting temperatures, hardness, light weight, and other properties of ceramic materials promise to enable energy efficiency, emissions reduction, and durability improvements in automobile and truck engines. The Department has worked with industry to develop processes that have improved the properties and reliability of ceramics. In 1983, ceramic heat engine parts repeatedly broke. Ten years and \$109 million of DOE cost-shared research and development has resulted in U.S. industrial ceramic

materials that exceed the strength, durability, and reliability requirements for transportation applications. The Department has developed a process, with a U.S. company, to reduce the cost of producing silicon nitride ceramic powder from \$30 per pound to slightly more than \$10 per pound. The ultimate goal is \$6 per pound. Manufacturers are beginning to use this material for a variety of parts in production engines. Allied Signal, for example, is manufacturing ceramic oil pump spacers for use in commercial aircraft, including Boeing, Gulfstream, and Airbus. As another example, more than 15,000 ceramic cotter pins have been sold for aircraft applications.

Nickel Metal Hydride Cells, Modules, and Vehicle Batteries

Nickel metal hydride batteries are one of three midterm batteries being developed by the Department of Energy through the United States Advanced



A nickel metal hydride battery.

Battery Consortium. This battery technology is approaching all of the consortium's midterm goals, with the exception of cost. The consortium is now concentrating on developing lower cost materials and improved production processes. Given the performance of this technology, General Motors has formed a joint venture with the Ovonic Battery Company. Replacing the lead acid battery in the General Motors Impact car with this nickel metal hydride battery will increase the range of the vehicle from 70 miles to 140 miles between recharges. A conservative market estimate for this battery, as the result of the mandates for zero emission vehicles in California and the Northeastern States, is approximately \$350 million in 2003.

Biomass Feedstock Technology

Hybrid poplar "supertrees," which are being commercially planted by six major pulp and paper companies in the Pacific Northwest, were developed through Department of Energy investment in research programs for producing biofuels feedstocks. This portion of the Department's Biofuels Feedstock Development Program, focused in the Northwest, has invested approximately \$2 million over 17 years to produce genetically superior trees and improved agricultural production techniques. Acreage planted is expected to double from the 25,000 acres planted now to well over 50,000 acres within the next 2 years. Two mills are already using the fiber to produce paper as well as energy for their boilers, and two new nursery companies have emerged to supply high-quality cuttings to private industry and landowners. The Western Washington plantings established along rivers provide habitat to an endangered deer species and other wildlife. Each acre of hybrid poplars planted displaces the need to harvest 10 acres of Douglas Fir for fiber.

DYNA3D Finite Element Analysis Technology

The Department of Energy sponsored research that developed DYNA3D, a dynamic finite element analysis tailored to simulate high energy impacts, such as car crashes or aircraft collisions with birds. DYNA3D is available at near-zero cost to the public and has had a major impact on U.S. industry. It is used by more than 300 U.S. companies, including

GE Aircraft Engines, General Motors, Chrysler, the Boeing Company, ALCOA, General Atomics, FMC Corporation, and Lockheed Missiles and Space Company. The technology is used by all U.S. car manufacturers and has sharply reduced the need for costly vehicle crash testing. An independent study placed the savings to U.S. industry as a result of using the model at \$350 million.

Zymomonas Mobilis Organism

In 1994, research sponsored by the Department of Energy developed a new, genetically engineered organism, *Zymomonas mobilis*. This organism enhances the fermentation of cellulose, increasing the rate of conversion and yields of ethanol for use as fuel. It is estimated that this new technology, which was described in the prestigious journal, *Science*, and widely written about by the Associated Press, has significantly reduced the cost of ethanol from \$3.60 per gallon to less than \$1.00 per gallon, making ethanol a more competitive alternative fuel.

Lightweight Materials Technology Development

Reducing vehicle weight through the use of lightweight materials promises to enable major energy efficiency improvements in full-size automobiles without compromising passenger comfort and safety. At the program's inception in 1992, lightweight metals such as aluminum could not compete with steel as the material of choice for automotive manufacturing because of their cost and forming time. After three years and \$3 million of Department of Energy cost-shared R&D, advanced forming of aluminum sheets for auto body components achieved weight reductions of 43 percent, parts count reductions of 89 percent, forming time reductions of 77 percent, and cost reductions of 15 percent. Projected cost savings to auto companies are about \$60 million per year by 1997.

Industrial Technologies

The Department's industrial energy activities are motivated by energy, economic, and environmental policy objectives. Specific activities are shaped by

the recognition that enhanced energy efficiency is a key to increasing industrial productivity and that improving efficiency of industrial energy use is closely linked to reducing waste and pollution. The goal of the industrial energy program is the creation of a more efficient, competitive, environmentally sound, and sustainable domestic industry, and to promote environmental stewardship, competitiveness, and job preservation and creation by demonstrating profitable alternative approaches to regulatory compliance.

The Department collaborates with industry to reduce energy use through new technologies in heat recovery, energy utilization, and industrial and municipal waste management. Other programs develop process improvements and innovations for specific energy-intensive industries such as pulp and paper, steel, and chemicals. In addition, applied research in combustion, biotechnology, advanced materials, and heat transfer will provide the foundation for future advances in technology. An active technology transfer program provides an effective link between the research and development programs and the community of potential users.

More than 50 technologies in the Department of Energy's Industrial Technologies Program are economically successful. An investment in developing these technologies of about \$1.1 billion from fiscal year 1977 through 1994 has yielded approximately \$2.5 billion in energy savings and capital productivity.

Catalytic Distillation

The advanced catalytic distillation process developed by the Department of Energy nearly 15 years ago has become a major commercial success. It is used to produce gasoline additives such as methyl-tertiary-butyl-ether and tertiary-amyl-methyl-ether, thus helping U.S. refiners produce the reformulated gasoline mandated by the Clean Air Act Amendments of 1990. As of fiscal year 1994, 80 units were on order at the manufacturer, Chemical Research and Licensing, Inc., 19 units were operating in the United States, and 40 units were operating worldwide—28 percent of the world market. Advanced catalytic distillation saved 3.24 trillion British thermal units of energy in 1993 alone, at a rate of about \$10 million per year.

Ultralight Aerogels

Scientists sponsored by the Department of Energy at two national laboratories have developed a new material, called aerogel, that has the lowest density, highest porosity, lowest thermal conductivity, and lowest sound propagation of any solid ever made. A 1-inch-thick layer of aerogel replaces 12 inches of fiberglass insulation. This feature is particularly valuable in appliances such as refrigerators and water heaters. While industry interest in better insulation is being explored, the unique properties of aerogel have opened other market opportunities for this emerging technology. Because of their high surface-to-volume ratio, these materials can be used as catalytic and adsorbent surfaces and as carbon ultracapacitors. Ultralight aerogels are being taken to the commercial market by Aerojet, a segment of GenCorp.

Aluminum Remelting Technology

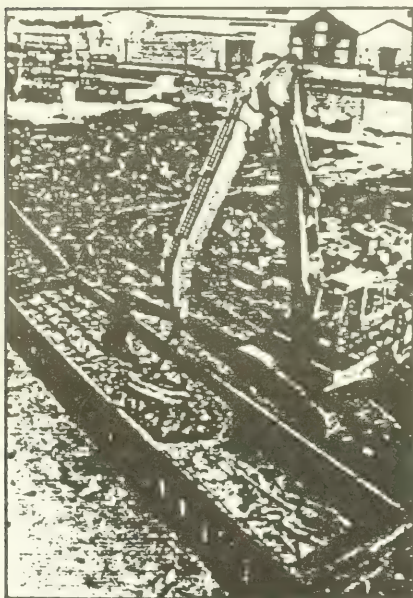
A \$400,000 grant from the Department of Energy, through the National Industrial Competitiveness Through Energy, Economics, and Environment program to AAP St. Mary's of Ohio has resulted in a more efficient technology for aluminum remelting. By avoiding the second aluminum chip melt during recycling, real energy savings are 6.36 billion British thermal units annually—6,249 gallons of diesel fuel, and 155,000 gallons of coolant. Additionally, the new technology eliminates 59 tons per year of emissions and 64 tons per year of dross. Dollar savings equal \$642,000 annually.

Vacuum Pressure Swing Adsorption

By eliminating the nitrogen from air in glassmaking furnaces burning gas or oil, vacuum pressure swing adsorption technology has reduced furnace emissions of nitrogen oxides by 90 percent and particulates by 25 percent. Furnace energy requirements are reduced by 25 percent. Three companies, Praxair, Inc., (Tarrytown, N.Y.), Corning, Inc., (Corning, N.Y.), and Gallo Glass Company (Modesto, California) have commercialized this energy-efficient technology. Approximately 15 percent of all glass made in the United States now employs this technology.

Electrochemical Dezincing of Steel Scrap

Department of Energy scientists have developed an electrochemical method of removing the galvanized coatings from steel scrap that would allow 10 million tons of this valuable resource to be used in steelmaking furnaces. This process would increase production yields and quality as well as decrease environmental problems and cost. By the year 2000, electrochemical dezincing could save 50 trillion British thermal units of energy, reduce raw material costs by at least \$160 million per year, and reduce the need to import at least 75,000 tons per year of zinc, saving at least \$77 million annually.



A crane loads 3,000-pound bales of dezincing steel. This stamping plant scrap was dezincing using the electrochemical process developed by the Department of Energy.

High-Efficiency Weld Unit

Improving power supply efficiency is key to achieving significant energy savings in welding processes. Conventional arc-welding power supplies use a low-frequency transformer, which makes them power-inefficient and unwieldy in weight and size. The Department of Energy developed a more efficient power supply with the Cyclomatics Company. The new system uses solid-state electronics known as inverter technology to shut off power to essentially all of the power source components when a unit is idling. This reduces electrical energy consumption by up to 45 percent compared to conventional power supplies. Nationwide, these units have saved more than 13 trillion British thermal units of energy and can be credited with reducing emissions of carbon dioxide by 20,000 tons each year. Annual savings are \$15 million.

Direct Steelmaking

The Department of Energy supported post-combustion research in a Basic Oxygen Steelmaking Furnace, which led to the application of the technology in the electric arc furnace. The result is a savings of 40 to 50 kilowatt-hour per ton and a 6- to 7-percent increase in productivity. This work was performed by Union Carbide, now Praxair, under a subcontract from the American Iron and Steel Institute. Praxair is now marketing the technology worldwide. This technology can be applied in approximately 50 million tons of steelmaking annually, with an annual savings of \$30 million.

Superplastic Metal Formation Technology

The superplastic metal forming process developed through research sponsored by the Department of Energy allows the manufacture of metal components into shapes very near final dimension. This results in several advantages. It minimizes machining material waste, eliminates the use of environmentally damaging solvents, and saves energy, time, and labor costs. Further, it allows the use of new materials such as lightweight alloys, and enhances design freedom by creating the opportunity to produce unique complex shapes. Manufacturers report a 20-percent savings in metal machining processes.

Securing Future Energy Supplies

Today more than 85 percent of the useful energy and power produced in the United States comes from boilers, furnaces, and internal combustion engines that rely on fossil fuels. The Nation's increasing dependence on imported oil makes us vulnerable to supply disruptions and related price shocks. Although natural gas and coal are mostly domestic fuels, the heavy reliance on fossil fuels necessitates costly efforts to control pollution. Improving the Nation's ability to develop cleaner technologies and secure future energy supplies is vital to our economic, environmental, and social well-being.

The Department of Energy seeks to achieve this goal by research and applied technology development aimed at diversifying energy sources—especially promoting increased use of indigenous resources, including oil, gas, coal, nuclear, and renewable energy. We also support efforts to increase the efficiency of electric energy distribution and storage. To better ensure early commercial application of successful technologies, this research and development will be based on cost-shared joint government-industry-university collaborations wherever possible.

Some success stories on the supply side of the energy ledger are highlighted in the following paragraphs.

Renewable Energy

The Department supports a balanced development and deployment effort on promising renewable energy technologies aimed at increasing the produc-

tion and use of domestic energy resources, and is working with industry to strengthen the technology base leading to new products and processes for the commercial market. The number of private-sector partners willing to cost-share key research projects is evidence that the private sector has a legitimate interest in these technologies. Research and development on photovoltaics, solar thermal, wind, biomass, and geothermal energy will help strengthen the Nation's energy security, promote sustainable energy approaches, and increase U.S. industrial competitiveness. The goal in this program area is to triple the U.S. nonhydropower renewable energy capacity by the year 2000.

Continued cost reductions fostered by our strategic research, development, and deployment activities can ensure the United States a place in an emerging multibillion-dollar clean energy market. The establishment of footholds by U.S.-based firms in international sales activity is clearly vital. Currently, U.S. photovoltaic and geothermal companies are worldwide leaders as a result of Department of Energy investments in advanced technology development. More than 70 percent of U.S. photovoltaic manufacturing output is exported, resulting in more than \$90 million in annual revenues. U.S. companies have installed more than 1,000 megawatts of geothermal facilities in other countries and have orders for an additional 2,000 megawatts, creating an annual income stream of \$250 million.

Photovoltaics

Research and development supported by the Department of Energy has been instrumental in the

discovery, synthesis, and development of state-of-the-art semiconducting and photonic materials and devices. Photovoltaic technology converts photons (light) into electricity. Today photovoltaic cells power a wide variety of devices, including spacecraft, watches, calculators, highway signs, navigational aids, emergency telephones, and relay stations; in developing countries, photovoltaic cells power entire remote villages. Photovoltaic systems are an ideal, environmentally sensitive technology for bringing people in remote sites such basic services and amenities as light, water, communications, power for businesses, and power for other productive uses.

Photovoltaic electricity costs dropped from 90 cents per kilowatthour in 1980 to 20 cents per kilowatthour today. Since 1988, photovoltaic output has doubled; photovoltaic output increased another 24 percent just from 1993 to 1994. Maintaining and expanding this phenomenal growth depends on continuous improvements in the performance and cost-competitiveness of photovoltaic products, supported through cost-shared R&D between industry and the Department of Energy. At present, every \$100 million in direct module photovoltaic sales helps support or create 3,800 U.S. jobs.

Wind Turbine Technology

Collaborative Department of Energy and industry research and development has created today's modern wind turbines, which are already providing sufficient electricity for 1 million Americans. Costs have been reduced from almost \$.25 per kilowatthour in 1980 to the current range of \$.05 to \$.07 per kilowatthour in locations with good wind resources. New wind turbine blades, advanced materials development, and developments in airfoil technology are expected to further reduce the cost of wind-generated electricity to \$.04 per kilowatthour by 2000. In California alone, there are more than 1,700 megawatts of generating capacity. California's wind powerplants currently provide up to 8 percent of Pacific Gas and Electric's load and save the energy equivalent of 4.4 million barrels of oil each year while producing no air pollution. (In fact, wind power prevents the creation of 2.5 million tons of carbon dioxide and 15,000 tons of other pollutants per year.)

Wind Energy Analysis Systems

A team of scientists at a Department of Energy laboratory produced and documented the most comprehensive analyses available of wind energy resources and wind electric potential in the United States. These analyses are used by utilities, energy planners, and industry. Team members also combined their skills to develop a measurement and analysis system for characterizing turbulence in the wind inflow to a turbine rotor. Efforts are now being extended across the globe to assist developing countries in establishing local wind energy projects. Data derived from the research also convinced the World Bank to include wind power as a viable option for a \$600 million rural electrification project in Indonesia. This investment directly serves the Department of Energy missions of pollution prevention and increased energy efficiency.

Geothermal Technologies

The commercially operated geothermal site at The Geysers in northern California reached peak electric power output of 2,000 megawatts in 1988. Inexplicably, a steady decline in output began in 1989. In 1990, a concerned geothermal industry asked the Department of Energy for assistance in determining the cause. Failure of power production at The Geysers would have a depressing effect on all potential markets for geothermal power. During fiscal years 1990 through 1994, the Department of Energy shared costs with a coalition of geothermal operators and made available both experts and expertise to help diagnose the problem. The cause proved to be reservoir fluid depletion, the result of inadequate reinjection practices and insufficient knowledge of reservoir management requirements. The lessons learned in this effort will continue to benefit geothermal reservoir development for years to come. With a \$12 million Department of Energy investment—matched by \$42 million from industry—a potential crisis for hydrothermal energy systems was overcome, reservoir practices leading to decades of stable operation were developed, and more than 300 jobs were directly preserved.

Gas and Oil Exploration and Production Technologies

Oil remains one of our Nation's vital commodities, supplying 40 percent of the United States' primary energy needs and nearly all of its transportation fuel. Domestic production, however, continues to decline, with two-thirds of all the oil ever found in the United States remaining unrecoverable by conventional production methods. Moreover, the United States has technically recoverable reserves of 113 billion barrels, almost 6 times today's proved reserves. In addition, as much as 1,300 trillion cubic feet of natural gas is technically recoverable in the lower 48 States—about 8 times more than current proved reserves.

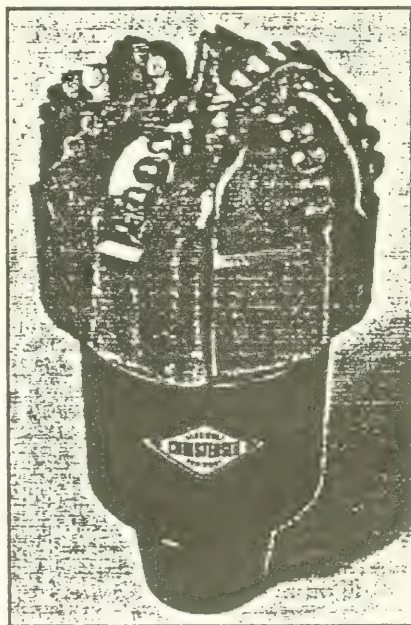
To realize the potential of these oil and gas resources requires continued development of advanced exploration and extraction technologies. The Department is working with industry to develop advanced computing technologies to improve drilling success rates, rock drilling systems for natural gas, and advanced oil recovery technologies, as well as carrying out related research and analytical activities. By enhancing the efficiency and competitiveness of U.S. industry, these research and development efforts will increase domestic energy production, reduce dependence on imports, and create jobs.

Polycrystalline Diamond Drill Bits

Research and development sponsored by the Department of Energy produced one of the most important advances in drilling technology, a new drill bit design that uses polycrystalline diamond cutters. Previous diamond cutting bits failed when the cutting assembly would break away from the bit after prolonged drilling. This technology, which was spawned by Defense Programs basic research at Sandia National Laboratories, permanently bonds the cutters to the bit. In time-critical drilling situations, this drill bit can save as much as \$1 million per well. Worldwide, 13 companies now fabricate this synthetic diamond drill bit. U.S. companies produce approximately 4,000 bits per year.

Mudpulse Telemetry for Measurement While Drilling

One of the most important timesaving innovations used today in the drilling industry is the "measurement-while-drilling" instrument. Before its invention, operators needing to determine drill bit direction had to cease drilling, remove hundreds or thousands of feet of drill pipe, and lower an instrument into the well. Readings would then be taken, the instrument retrieved, and drilling would recommence. In the 1970s, the Department of Energy helped Teleco, Inc., pioneer a wireless system that could transmit the location of a drill bit by sending pressure pulses through the drilling mud that circulated from the bit face to the surface. Today, mudpulse telemetry has gained wide acceptance in



Polycrystalline diamond drill bit is one of the most important advances in drilling technology. Thirteen companies currently manufacture the bit.

the drilling industry and is estimated to have saved the natural gas and oil industry at least \$1 billion over the past 20 years.

Carbon Dioxide Sand Fracture Production Technology

The Department of Energy's Morgantown Energy Technology Center developed, tested, and helped commercialize this technology for stimulating production from natural gas wells. A nondamaging treatment process, it won the natural gas industry's 1994 Best Technology in the Northeast Award. Of special importance to small, independent producers, the technology has been shown to increase production by 200 to 500 percent. At \$2.00 per thousand cubic feet, a 3 to 9 million cubic foot well using carbon dioxide sand fracturing will generate \$20 million more revenue over its productive life.

Hot Oiling Paraffin Treatment

Buildup of paraffin in the wellbore and near-wellbore formation can cause severe reductions in production of waxy crudes and result in lifting equipment failures. Traditional batch treatments are expensive and can result in formation damage if sound hot oiling practices are not followed, that is, if melted paraffin solidifies before it reaches the bottom of the well and plugs the formation. The Department of Energy developed a computer model that optimizes hot oiling paraffin treatments and aids in determining good practices. The use of this software, to estimate downhole temperatures and effectiveness of hot oiling, helps both producers (especially independents) and service companies by reducing operating and maintenance costs. For example, application of the software by an independent producer in a West Texas field increased the efficiency of production equipment, reduced equipment failures, and resulted in about \$1.00 per barrel-equivalent reduction in average lifting cost. Industrywide use of the software and good hot oiling practices could result in more than \$150 million per year in reduced operating cost, and also reduce well abandonments.

Insulating Doughnut for Steam Flood of Deeper Oil Wells

Steam injected into deeper heavy-oil wells can lose significant amounts of heat during the trip from the surface to the reservoir. In fact, a phenomenon known as wellbore refluxing can result in up to six times the heat loss in an uninsulated tubing string than would be normally expected. Sandia National Laboratories, working under a Department of Energy program, devised a 2-inch-long "doughnut" of plastic insulation that, when inserted in the standard tubing coupling, prevents steam from contacting the thin outer coupling walls. Heat loss through refluxing is reduced substantially. This simple device is now standard in the industry, and the savings to the industry will amount to hundreds of millions of dollars over the next decade.

Improved Oil Recovery Technology for the Green River Formation

An oil recovery field demonstration program cosponsored by the Department of Energy has shown that by properly applying improved water-flooding technology in the Uinta Basin in Utah's Green River Formation, additional oil can be produced from fields that might otherwise have been abandoned. The Department's test has turned around conventional thinking in the region, giving Utah producers a technology that was previously thought to be unusable in the region's complex geology. The initial field test has already added 2.4 million barrels of producible oil to the region's reserves. More importantly, neighboring operators have begun using the technology and will return more than \$160 million in Federal taxes and royalties, well above the \$112 million Federal investment to date. Ultimately, recoverable oil reserves in Utah could be expanded by 3.5 billion barrels because of the Department of Energy cost-shared project.

Carbon Dioxide Miscible Flooding Technology for Oil Recovery

Three percent of all domestic crude oil (about 180,000 barrels per day) is produced by injecting carbon dioxide into aging reservoirs to force out oil that conventional production techniques cannot

recover. The gas mixes with some of the remaining oil in the reservoir, and creates a miscible bank of fluid that pushes additional oil to production wells. In large part, industry gained confidence in carbon dioxide flooding technology through a series of eight field tests conducted in the 1970s and co-financed by oil companies and the Department of Energy and its predecessors. Because of the success of carbon dioxide-enhanced oil recovery, carbon dioxide pipelines have been built throughout west Texas and eastern New Mexico, the principal regions of successful carbon dioxide miscible flooding. With the completion of the LaBarge pipeline, carbon dioxide-enhanced recovery has also been extended to oil fields in Wyoming and could reach others in North Dakota. Today, roughly 68,000 Americans are employed directly and indirectly because of this oil recovery technology. Moreover, data developed through the Department's laboratory research has saved the domestic oil producers at least \$10 million by allowing them to accelerate development of other recovery processes.

Computerized Oil Field Simulators

Closely related to predictive models is a family of oil field simulation software developed by the Department of Energy. BOAST (Black Oil Applied Simulation Tool) was introduced in 1982 as a way to simulate the movement of oil, gas, and water through an oil reservoir. BOAST has been upgraded to operate on personal computers and expanded to assess larger areas, larger numbers of wells, and more solution options. More than 2,400 copies of BOAST PC software have been distributed by the Department. Several oil industry consulting firms have modified the program to their own specifications. More than 20 million barrels of oil have been produced as a result of using these simulators, and the return to the taxpayer is more than \$1,000 for each \$1 of Department of Energy investment. Universities are also using BOAST as a textbook for reservoir simulation instruction. A second simulator, UTCHEM, has been developed specifically for chemical flooding. The simulator is being used by approximately 20 oil companies to project the behavior of tracers, polymers, polymer gels, surfactants, and alkaline agents injected into oil reservoirs. Better management of reservoirs has saved these companies more than \$23 million,

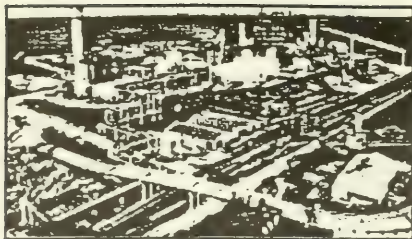
\$8 million of which will flow back to the U.S. Treasury. The Department developed a third simulator, MASTER, to assist the natural gas industry in evaluating miscible and nonmiscible gas-enhanced oil recovery processes. By 1994, more than 250 copies of the software package had been distributed. Studies indicate that use of these processes will generate a 3-billion barrel increase in potential reserves.

Foam Fracturing of Gas Reservoirs

Another technique for creating fractures in a gas reservoir is to inject foam under high pressure into the wellbore. Foam has an advantage over high pressure water injection because it does not create as much damage to the formation, and well cleanup operations are less costly. Before the mid-1970s, use of foam fracturing was limited almost exclusively to Canada and the Rocky Mountain region. The Department's research in the late 1970s extended the technology to the Eastern region of the country, where effective fracturing is required to produce commercial quantities of gas from shale formations. More than 50 stimulation tests were conducted to apprise oil and gas operators in 8 Eastern States of the technique's merit. Once it was shown that the process accelerates the rate of natural gas production from these wells by nearly 200 percent, the foam fracture process became the dominant stimulation technique for marginal gas wells in the United States.

Enhanced Oil Recovery Predictive Models

The Department of Energy, in partnership with the National Petroleum Council and Software/Intercomp, has developed easy-to-use, predictive computer models for numerous enhanced oil recovery techniques. More than 1,000 copies of the PC-based predictive models have been distributed to oil field operators, drilling and service companies, consultants, researchers, and several major oil companies. The use of these models has saved the industry \$400 million by screening out uneconomical projects.



The Wabash River Coal Gasification Repowering Project, about 70-percent complete by the end of 1994. Destec Energy's two-stage, oxygen-blown gasifier tower is on the right and the integrated gasification combined cycle heat exchanger, and stack is on the left.

Coal-Use Technologies

Coal is the Nation's most abundant fossil fuel and is currently used to generate 57 percent of U.S. electric power. With coal projected to remain a dominant fuel for the power industry for many years, cleaner and more efficient coal-based technologies are becoming increasingly important for the Nation's energy and economic future. Working in close collaboration with industry, the Department's research and development efforts focus on improving the environmental acceptability of coal. These include developing technologies to burn coal more cleanly and efficiently, as well as technologies that can reduce the costs of producing liquid transportation fuels from coal.

Integrated Gasification Combined Cycle

Capitalizing on a successful gasification program, the Department of Energy has provided the foundation for an advanced power generation system that will be the powerplant of the 21st century. Advanced integrated gasification combined cycle (IGCC) technology will have system efficiencies ranging from 41 to 52 percent. Emissions of sulfur dioxide and nitrous oxide are limited to less than one-tenth of that allowed by New Source Performance Standards, carbon dioxide emissions are reduced by

35 to 45 percent, and solid waste is reduced by 40 to 50 percent. The IGCC powerplant is cost-competitive to build, in fact it is projected to be significantly less costly than conventional powerplants, while the cost of production would be reduced by 10 to 20 percent. At present, the Department's Clean Coal Technology program will provide the IGCC system entry into the global market as a top-ranking clean coal power generation technology with a potential global market of more than \$400 billion in capital investment by 2030, and about \$150 billion in the domestic market.

Super 9 Chrome Alloy

During the 1980s, Department of Energy research and development was instrumental in the development of a superstrong alloy called Super 9 Chrome, which is now used worldwide as an industry standard for improving the safety and reliability of equipment in coal-fired powerplants. This 9 percent chromium and 1 percent molybdenum alloy improves the life and performance of equipment under the severe operating temperature, pressure, and corrosion conditions typical of fossil fuel plants. Department of Energy scientists received the prestigious R&D 100 Award for this technology, which has since been incorporated into American Society of Mechanical Engineers Boiler and Pressure codes and transferred directly to industry for commercial applications. Sales of this product exceed \$100 million to date. Use of this alloy has enabled an increase in coal-fired powerplant efficiency of more than 3 percent, which results in a savings of more than \$1.7 million per year in fuel costs in a typical 500 MW powerplant. The higher efficiency also results in reduced emissions of sulfur dioxide, nitrogen oxides, and particulates, as well as reduced production of carbon dioxide by 280,000 tons per year.

Atmospheric Fluidized Bed Coal Combustor

The most significant advance in coal-fired boiler technology in more than half a century, the Fluidized Bed Coal Combustor has been the commercial success story of the last decade in the power generation business. This state-of-the-art, low-polluting combustion system technology has progressed into even larger scale utility applications. To date, more

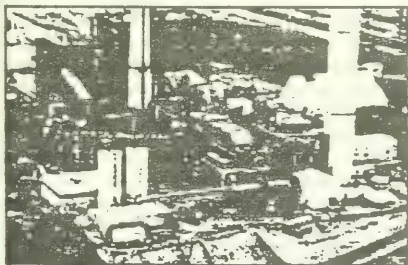
than \$6 billion in domestic sales and \$2 billion in foreign sales have been achieved through this Department of Energy investment. Domestic sales alone translate into nearly 250,000 jobs. Every major U.S. boiler manufacturer now offers a fluidized bed combustor in its product line.

Low Nitrogen Oxide Burner

With nitrogen oxides targeted for reduction by the 1990 Clean Air Act Amendments, Low Nitrogen Oxide Burner technology developed by the Department of Energy and Altex Technologies Company has rapidly found its way into the power market. Domestic sales to date total more than \$250 million, supporting 1,800 U.S. jobs. For wall-fired boilers, nitrogen oxide reduction levels of 35 to 40 percent are achieved at a capital cost of about \$20 per kilowatthour and a leveled cost of about \$280 per ton of nitrogen oxide removed. For tangentially fired boilers, the same degree of nitrogen oxide reduction is achieved at a capital cost of \$15 to \$20 per kilowatthour and a leveled cost of \$220 to \$350 per ton of nitrogen oxide removed. These costs are significantly lower than other options.

Pure Air Scrubber

The first utility in the United States to meet new Clean Air Act standards for sulfur dioxide control did so using an advanced technology supported by the Department of Energy, the Pure Air Scrubber. The capital cost per unit was half of previous air scrubbers, and it produces a commercially marketable gypsum material, rather than the waste sludge



Powerplant equipped with a pure air scrubber system.

commonly produced by older scrubbers (which causes landfill problems). In one year, the Pure Air Scrubber is eliminating 50,000 tons of sulfur dioxide emissions, turning an air pollutant into enough wallboard to construct nearly 19,000 homes. The project earned *Power Magazine's* 1993 "Power Plant of the Year" award.

Micro-Mag Sulfur Removal Process

Application of the Micro-Mag sulfur removal process removes 80 percent or more mineral-bound sulfur in coal. Scientists supported by the Department of Energy received a Federal Laboratory Consortium annual award for excellence for developing and transferring this technology to the private sector. This technology is central to a \$900 million coal preparation and slurry pipeline energy project in China. The China project alone, developed by Custom Coals Corporation, will support 6,300 U.S. jobs.

Advanced Instrumentation Development

The Department of Energy's advanced instrumentation development efforts have generated and contributed to several commercial businesses, while fulfilling its role of supporting advanced and conventional power systems. The instrumentation developed in this program includes novel elemental analyzers, combustion turbine flame monitors, a steam quality monitor for advanced heat exchanger applications, and an on-line, real-time particle counter. The instrumentation applications range from optimizing environmental performance to process monitors for reduction of off-specification operations. The commercial value of the instrumentation installed in current operating plants exceeds \$40 million.

Ceramic Composite Filters for Hot Gas Cleanup

The Department of Energy developed a process that produces continuous fiber ceramic composite filters that will reduce tons of pollutants and save millions of dollars in cleanup costs at hundreds of fossil fuel powerplants across the U.S. and elsewhere. Subsequently, Department of Energy scientists developed a chemical vapor infiltration and deposition process to produce filters many more times more resistant to

thermal and mechanical shock than conventional filters. 3M is now beginning to market the filter technology worldwide. The annual market share for the filters is estimated to be \$200 million per year.

Slagging Advisor Software Model

The Slagging Advisor Software Model, the result of an industry, university, and Department of Energy team in laboratory coal science, is being marketed worldwide by PSI Powerserve. By optimizing control of boiler fouling, the software improves efficiency and cost in both conventional and advanced systems. Potential industrywide savings are hundreds of millions per year. For example, the software has saved more than \$1 million annually for one utility alone.

Nuclear Fission Technologies

Nuclear energy currently provides approximately 20 percent of the electricity supply of the United States. Maintaining nuclear energy as an option to meet the Nation's growing demand for energy is one objective of the Department of Energy. Nuclear energy can provide a secure and clean domestic source of energy generation without emissions of greenhouse gases or acid rain precursors. Conducted in cooperation with the electric utility and nuclear industries, the Department's civilian nuclear energy program is focused on advanced light-water reactors that are expected to be safer, more reliable, and less expensive than current-generation nuclear energy plants. By working toward making standardized, certified, advanced light-water-reactor designs available before the end of the 1990s, the Department will help ensure that nuclear energy remains an option for the Nation's energy supply in the 21st century.

Light-Water Reactors

Although the bulk of the Department of Energy's work on light-water reactors was conducted over many decades, including the 1950s and 1960s, the Department continued to research important refinements in the 1970s and 1980s to improve safety and reduce costs. Based upon Department of Energy

research and development in nuclear physics, reactor engineering, and related materials development, there are currently 109 nuclear powerplants (about 100 gigawatts-electric) with full power operating licenses. These powerplants produce approximately 22 percent of the Nation's electricity. The electrical power produced by these plants, if replaced by conventional powerplants, is equivalent to \$20 billion per year. Over the past 20 years, these plants have replaced the equivalent of \$400 billion in fossil power, displacing significant amounts of air pollution. Additional Department of Energy research in partnership with the nuclear industry is leading to procedures to extend the life of existing plants. Estimated savings in energy costs for 20-year life-extension versus replacement is \$800 million per plant.

Extended Burnup of Light Water Reactor Fuel

By 1985, a 10-year research and development partnership between the Department of Energy and the nuclear fuel industry had provided the technology for an approximate 50-percent increase in the burnup (or energy extraction) achieved by each unit of nuclear fuel. This technology is being implemented in operating water-cooled reactors worldwide, yielding fuel cost savings of several million dollars per year for each operating reactor, reducing the amount of spent fuel to be disposed of by approximately one-third, and serving U.S. nonproliferation policy interests by making the reprocessing of such spent fuel even more uneconomical.

Greenhouse Gas Emissions Reduction

Department of Energy nuclear research has resulted in 92 percent of all carbon dioxide emission reductions realized in the electric utility sector since 1973, avoiding 1,615 million metric tons of carbon emissions. Also, nuclear energy has mitigated 27 million tons of nitrogen oxide and 65 million tons of sulfur dioxide emissions in the United States alone. Internationally, emissions avoided from 1973 through 1991 through the use of U.S. nuclear energy technology is 4,300 million metric tons of carbon dioxide, 70 million tons of nitrogen oxide, and 160 million tons of sulfur dioxide.

Advanced Light-Water Reactors

The Department of Energy supports research and development to make the next generation of nuclear powerplants, certified advanced light-water reactors, available at the earliest possible date to the marketplace, to ensure the light water reactor is an option in contributing to the new electrical energy capacity required by 2010. In 1994, Final Design Approval, a major milestone toward certification, was achieved for two 1,350-megawatt evolutionary advanced light-water reactor designs. The Senate noted this success in its report on the Energy and Water Appropriation Bill of 1995. Building on research and development sponsored by the Department, the General Electric Company recently sold two advanced boiling water reactor plants to Tokyo Electric Power Company, kicking off sales of the next generation in advanced light-water reactors.

Reduced-Enrichment Fuels for Research and Test Reactors

During the 1980s, the Department of Energy's Reduced Enrichment Research and Test Reactor Program at Argonne National Laboratory developed and qualified a high-density dispersion fuel that serves U.S. nonproliferation policy interests by significantly decreasing the amount of weapons-grade uranium being used for civil programs throughout the world. The U_3Si_2 dispersion fuel has received the Innovation Research 100 award (1985), has been accepted by all major research reactor regulatory authorities, and is currently being manu-

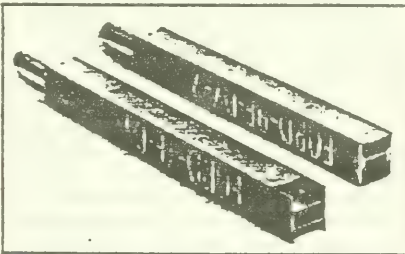
factured commercially in the United States, France, and Denmark. Additionally, fuel fabricators in Canada, Indonesia, and the United Kingdom are in the process of adopting the U_3Si_2 fuel. Through 1994, seven foreign and seven U.S. reactors have converted or begun to convert to this low-enriched fuel. Ten other reactors were converted to low enrichment uranium using lower density fuels also developed by the program.

Isotopes

As a direct result of energy research, Department of Energy national laboratories have been producing and distributing isotopes and isotope services and meeting national isotope needs in nuclear medicine, industrial, and research applications for nearly 50 years. Continued domestic isotope production and its ongoing transfer to private industry fulfills a vital national need. In the United States, isotopes are used in 36,000 diagnostic procedures and 50,000 therapeutic applications daily, with more than 30 million medical uses valued at \$7 billion to \$10 billion each year. One promising new medical therapy uses Yttrium-90, currently supplied to several major U.S. cancer treatment institutions. The precommercial research and development success of Yttrium-90 cancer therapy has interested a number of commercial pharmaceutical companies. Savings to U.S. patients could approach hundreds of millions of dollars in improved cancer treatment. The Yttrium-90 is obtained from Strontium-90, a nuclear waste product.

Radioisotope Thermoelectric Generators

The Department of Energy has developed and provided radioisotope thermoelectric generators (RTGs) to power spacecraft used in the exploration of outer space (24 missions) for more than 30 years. These deep space missions would not have been possible without the RTGs. RTGs convert heat from the radioactive decay of plutonium-238 directly into electricity. They are powering experiments left on the moon by Apollo astronauts, as well as experiments on Mars. The RTGs provide the enabling power for the Pioneer and Voyager spacecraft that have studied Jupiter, Saturn and Neptune and continue to send back data from beyond our solar system. RTGs power the Galileo spacecraft that is on its way to orbit Jupiter and that provided



Mock-up standard and control fuel elements fabricated during conversion of the Ford Nuclear Reactor at the University of Michigan to low-enriched uranium fuel.

pictures of the recent Levy-Shoemaker comet impact. RTGs also power the Ulysses spacecraft that is the first such craft to study the polar regions of the Sun. By powering NASA spacecraft, RTGs have made a major contribution to our knowledge of the universe.

Advanced Electricity Generation and Storage Technologies

The convenience and flexibility of electric power have made this energy form a basic component of our economy and way of life. As previously discussed, the Department of Energy supports R&D activities that focus on improving the economics, environmental acceptability, and efficiency of conventional and emerging technologies. But in addition, the Department has been actively working on a variety of advanced electric technologies, some of which do not fit neatly into specific program areas.

For example, the Department's Office of Fossil Energy and Office of Energy Efficiency and Renewable Energy have been working with industry on an accelerated program to develop advanced gas-fired turbine systems and fuel cell systems. The new generation of electric power generating systems are expected to have environmental performances and fuel-to-electricity efficiencies that are much improved over today's conventional technologies. Other crosscutting technological areas include large- and small-scale electricity-storage technologies.

Phosphoric Acid Fuel Cells

A Federal investment in the 1980s and early 1990s yielded a radically new approach for commercial power generation, the fuel cell, and positioned the United States as the world leader in fuel cell technology. Relying on electrochemistry rather than combustion, the fuel cell is attractive for both heavily polluted urban areas and remote applications.

The phosphoric acid fuel cell was the first technology to emerge from one joint public-private, cost-shared program sponsored by the Department of Energy. Seventy-five 200-kilowatt commercial onsite cogeneration systems have been sold throughout the world, including 31 in the United States, by



An urban bus powered by phosphoric acid fuel cells developed by the Department of Energy. This bus demonstrates twice the fuel economy and a 99-percent reduction in emissions when compared with equivalent diesel buses.

International Fuel Cells Corporation of South Windsor, Connecticut. One of these fuel cells, operated by Southern California Gas, set a record last year for uninterrupted operation at more than 80 percent efficiency. Phosphoric acid fuel cells have also been successfully developed by the Department for transportation applications. A fuel-cell-powered bus, now undergoing field testing, demonstrates significant energy benefits (twice the fuel economy of comparable diesel buses) and environmental benefits (emissions reduced by more than 99 percent compared to diesel buses). The projected annual sales of fuel cell technologies could total more than \$1 billion by 2020, a market that could create as many as 100,000 U.S. jobs.

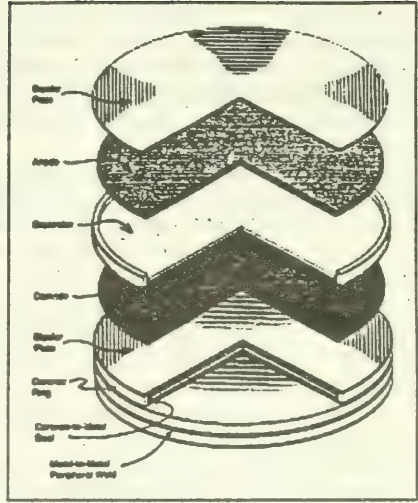
Advanced Gas Turbine Components

The Department of Energy is cost-sharing an 8-year development program to produce a leapfrog advanced gas turbine technology that will ensure continued U.S. leadership in the global market. While the entire turbine system will not be completed until the year 2000, key components have already emerged from the development effort and are being used in commercial turbines. In late 1994, Westinghouse Corporation announced a new type of industrial gas turbine, the 501G, the most fuel-efficient machine in its class. Advanced technology from the Department's R&D program is incorporated into the turbine. Closed-loop steam cooling of blades and rotors, techniques developed in the joint government-industry program, have effectively eliminated efficiency losses caused by earlier

methods of air cooling. Although the United States dominates the global turbine market, foreign vendors are closing the gap. The leapfrog turbine emerging from the Department's program is expected to maintain U.S. dominance in a multibillion dollar world market.

High-Energy Batteries for Consumer Products

Investigations supported by the Department of Energy of nonaqueous electrolytes such as propylene carbonate provided the fundamental information needed to develop batteries based on electrolytes. High-energy primary (nonrechargeable) lithium batteries, which were not available prior to this research, are now in widespread commercial use. New generations of these electrolytes are also employed in secondary (rechargeable) lithium batteries now under development and in early stages of commercialization. The commercial use of such high-energy batteries has accompanied and enabled the explosive growth of the multibillion-dollar portable electronics industry, which includes laptop computers and portable tools. The technology can also be used in home and auto security systems, electronic tools, robotics, and medical instruments.



Rechargeable bipolar lithium iron disulfide battery stack.

PARTNERSHIP FOR A NEW GENERATION OF VEHICLES

Senator GORTON. Let me go on to one more set of questions, and then I am going to defer to Senator Burns.

One of the newest of the activities of your agency is the partnership for a new generation of vehicles—

Ms. ERVIN. Yes.

Senator GORTON [continuing]. Which is now a considerable investment on our part. I would like you to describe what you have achieved, if there is anything tangible you can point to, what you propose to achieve.

And I need your justification for why this is not, you know, what many of the think tanks call corporate welfare, and in this case, corporate welfare for three of the largest and most profitable corporations in the United States.

Why in the world should we be engaged in this activity as against simply allowing the automobile manufacturers to handle it on their own?

Ms. ERVIN. I think this partnership for a new generation of vehicles is one of the most important collaborative efforts we have underway in the Federal Government, and let me elaborate on that.

First of all, this is a partnership with the major automobile manufacturers, but about 85 percent of the money is going to pass through those companies to the small supplier networks, to universities, and to laboratories. So it is a much broader network that is involved than the big three manufacturers alone.

Here is why it is important. I just recounted some of the figures that we face in oil imports. We have record highs of oil imports in this country. Some 50 percent of our oil is imported today, and that

is projected to reach 60 percent in 2010. It is the single largest component in our overall trade deficit. It is a major problem.

Second of all, the transportation sector is the single biggest source of air pollution problems in the various nonattainment areas across the country. At the same time, the price of gasoline has fallen in real terms.

And so what you find is that Americans are driving more and more and more. There is not a strong consumer demand for a much more fuel efficient automobile, even though consuming more and more oil in those automobiles presents a major national problem and challenge.

So we have a broad public interest, but the private sector in and of itself does not have its own market incentive. So this is the best kind of partnership to pool our resources together and accomplish something that both—

Senator GORTON. So you are saying without this, the big three would ignore the problem.

Ms. ERVIN. I am saying that it is not on the top of their priorities in the short term. The other challenge that they face is it is very difficult for one company to make the scale of investments we are talking about for radical changes in manufacturing and put themselves at some jeopardy in the short term with their competitors.

So I think it is a win-win type of partnership that can be justified. The other thing that I do think the administration does not get enough credit for this. Many scientists call this project comparable to the Apollo mission in terms of technology breakthroughs that are needed.

I mean, let us remember, only 20 percent of the energy that is imbedded in gasoline reaches the wheels of the automobile today.

There are many changes that need to be made in terms of the combustion system, in terms of the materials that are used, in terms of regaining all of the energy that is lost in the braking system. All of those require major technology breakthroughs that all fit together in a cohesive way.

We did not create a major, major new budget or agency to do this thing. What the administration has done is to take existing technology programs that have been in place in Tom's shop and in seven other agencies for years, for a decade or so, and have pulled them together in a coordinated, integrated way to reach this common objective.

So there is an increase in funding, but it has been very modest compared to what could have been tailored to an important national objective, I think.

Senator GORTON. Senator Burns?

Ms. ERVIN. One of the major accomplishments, by the way, is that we just have produced with industry the full technology development plan. This has been no small undertaking.

I do not know if you have a copy with you today.

Mr. GROSS. It is in my—

Ms. ERVIN. But it lays out the various choices and options and timetables, and that has required a good deal of work and was just developed about, what, 45 days ago.

Mr. GROSS. It was published in early March. The partnership for a new generation of vehicles technical road map is the result, in

just 1½ years since the partnership was announced, of work primarily between the staff in the Office of Transportation Technologies and representatives of the major auto makers to identify the highest priority areas which need to be addressed and in which breakthroughs are going to be needed in order to reach the goals of the partnership.

Senator GORTON. Comments, Senator Burns?

Senator BURNS. Thank you, Mr. Chairman, and thanks for inviting me to this hearing today.

NATIONAL ENERGY SECURITY

Going along that thinking, I am not going to buy into that. Necessity is the mother of invention. How concerned are you about the energy security of this Nation?

Ms. ERVIN. Very concerned.

Senator BURNS. Have you been—and if we are worried about we are going to start importing 51 percent of our oil from offshore, from somewhere, whether it be South America, the Middle East or wherever, do you foresee any kind of an action taken by OPEC that we could have another spike one of these days like we experienced in the seventies?

Ms. ERVIN. I am not an expert on that. I have received some briefings, and my understanding is that the percent of oil that is in control by OPEC countries is increasing rather significantly.

Senator BURNS. You are correct on that. But I would—just to go along with that, if you had to go to another transportation fuel, what fuel would you go to?

Ms. ERVIN. Well, we are fuel neutral in the Department. Most of our programs are designed very much to respond to what a locality and what a State would produce.

Senator BURNS. But if we were met with a national emergency, which if we had another oil embargo, what would the Department of Energy do? What would they recommend? How would they face up in providing a replacement for the lost oil that would not be coming into this country?

Ms. ERVIN. That question could be better put to Patricia Godley, who is the Assistant Secretary for Fossil Energy.

Senator BURNS. She is not here.

Ms. ERVIN. No; she is not. But I do not know her programs. I will tell you very briefly that the immediate reaction, of course, lies in the strategic petroleum reserve. And that is the immediate tool that is used for a year or two in response to any emergency.

The programs that we are developing here are to help avoid that kind of circumstance and to position us in the longer term.

Senator BURNS. You see, I am not going to worry about the Big Three automakers. I am kind of like the chairman here. When we start talking about research and development on an electric car, which I think is completely out of the question because I come from agriculture. We have to make something—we have to feed this Nation.

Ms. ERVIN. Sure.

NATURAL GAS

Senator BURNS. And I am still selling wheat for \$3 a bushel. And the same pickup that I bought in 1948 for \$1,100 now cost \$30,000. And the same combine that we used to pay \$4,000 for costs \$125,000, and it burns diesel and gasoline.

Now that is what concerns me. And we have as much oil under this country today as we have used to this point in our history. We have tons of natural gas. Are we doing anything in the natural gas area for transportation fuel?

Ms. ERVIN. Absolutely.

CLIMATE CHANGE ACTION PLAN [CCAP]

Senator BURNS. OK. Now, we can get off of that. But I am saying where do we put our priorities? And then we hear all these people going around saying we are going to do away with the Department of Energy. Sometimes talk like that has merit, it seems.

But anyway, on your CCAP—

Ms. ERVIN. Right.

Senator BURNS [continuing]. You are asking us to do some new things again in CCAP. Now, you came to us last year with this idea of CCAP, and we said OK.

And we thought well, now, starting off new programs from ground level, we were pretty skeptical. I can remember this committee being very skeptical about that, especially when we have programs in place that need to be enhanced.

In other words, the framework is there to do some things that I think should be exciting.

We were told there was a new major construction designed called energy 10 software package that was being developed. It should be on the market, or if it comes through the Department of Energy—it is nowhere to be found. It has not made it yet.

And I would ask—and that was a part of that. Now we are asking to add some more money to CCAP and taking money from passive solar programs and other functions in order to do this. Would you want to comment on that?

ENERGY 10

Ms. ERVIN. Let me have Bob Kripowicz refer to the two specific things that you mentioned. Then I am going to speak more broadly to the programs you referred to as CCAP.

Senator BURNS. All right.

Mr. KRIPOWICZ. The energy 10, which I think you referred to, Senator, is something that has been under development in the Department and is being run on a pilot basis now.

And we would expect within the next year, with the funding that is available in fiscal year 1995 and fiscal year 1996, that it will be available on a broad basis. It does involve passive solar energy designs.

Senator BURNS. Well, were we not told 1 year ago that this would be available now?

Mr. KRIPOWICZ. I am not aware of what you were told 1 year ago, Senator, but I do know that it has been piloted in 1995, and it has

been successful. And it will be available generally within the next year.

Senator BURNS. I have been experiencing this ever since I have been here. No matter what we are told, and it does not happen, it seems like, down there, not only your agency but every agency, and then it does not happen.

And I am going to ask—I am going to start asking a silly question. If it does not happen, who gets fired? Because I still see the same faces around.

So that is what I am saying. If we are going to deliver on something, let us get after it. But I am still a little bit concerned about where you are headed with CCAP and the amount of money—

CLIMATE CHANGE ACTION PLAN

Ms. ERVIN. OK. Let me address that directly.

Senator BURNS. And what do you have to show for it?

Ms. ERVIN. I think we have a lot to show for it. Let me, for the record, also indicate that the climate change action plan or the CCAP programs that you are referring to are EPACT programs, programs authorized by the Energy Policy Act, that also have the twin benefits of being very effective in reducing CO₂ emissions.

So a package of those was put under the umbrella of CCAP. But I do not want to lose sight of the fact that these are EPACT programs. We have about \$75 million altogether that is associated with the CCAP programs in this 1996 budget and we have a few expansions of those programs.

For example, here is a very simple one, and there are just four or five new programs. They are all very modest, \$1 million, \$1.5 million, and this is the kind of thing that we are trying to do.

Commercial buildings design fee reform. It has been talked about for years. And basically, it addresses the question of how can we give architects and building designers a financial incentive in designing an energy efficient building.

That would be a much lower cost, market oriented way of getting the building designed right in the first place, so you do not have to go back afterwards and do retrofits. A simple ingenious idea that has been talked about for years, but very, very few instances of that actually occurring.

We would like to spend \$1 million to try to work with various groups to make that happen. A small amount that could pay off in many, many ways.

Another example is the advanced lighting collaborative, \$1 million only. Here is the challenge we face here, and I think it is quite exciting; 25 percent of the electricity used in this country is for lighting, remember. And we have made tremendous strides in lighting over the years.

But look at compact fluorescents. They are beginning to make a significant dent in the market, but not nearly as fast as they could.

Part of the \$1 million collaborative that we are looking at is based on the simple premise of what if we build some of the compact fluorescent electronics that are in each bulb, and which costs quite a bit of the bulb, what if we built that into the lamp base itself?

That could reduce the cost of the bulb itself by 50 percent. But in order to do that, we have to get a consortium together of the users and the manufacturers and promote that concept.

That is the kind of thing that is modest, smart investments that pay off. I strongly believe in accountability. I think——

Senator GORTON. I take it you do not see any such modern lights in this room or this building.

Ms. ERVIN. We would love to go through this building.

Senator BURNS. Now, you have to remember, this building here is a low rent, high crime area. My office is right around the corner. [Laughter.]

Mr. KRIPOWICZ. Senator, I believe that the Architect of the Capitol has been working over the last year or two with Lawrence Berkeley Laboratory, which is one of our contractors, to do a large lighting program in all of the House and Senate Office Buildings.

Ms. ERVIN. Great.

Senator GORTON. I am sorry. Go ahead.

Ms. ERVIN. We will follow up and give you a progress report on that.

Senator BURNS. I am just kind of concerned about energy security. I think probably whenever we have—we have tons—I mean so much natural gas in this country it is unreal and at the lowest prices you have ever seen in your life. And we are not making any move in that direction.

It seems to me that the electric car thing, I am going to tell you from a practical standpoint, we are quite a ways away from that. And the fuel cell, the fuel cell technology, I think, is very exciting, too.

I chair Science and Technology and NASA. I would question your transportation. As many answers are going to come out of that as are going to come out of NASA or out of space. I would question that statement, but I have nothing to base that on, so I will not question it at this time.

PASSIVE SOLAR ENERGY

But I am concerned about this. And I am also concerned that we are putting some programs kind of on the shelf that I think need expanding. I think that of passive solar energy. I think we are—we build log homes in Montana.

I think it has a great future, as far as energy efficiency is concerned and the way we do that. And that is using a resource, and a renewable resource, that we have.

Ms. ERVIN. Absolutely.

Senator BURNS. And to take those programs away and start out on some wild goose chase, on something we know damn well that——

Ms. ERVIN. Two things. I am not aware of our cutting back on passive solar in the 1996 budget, and I——

Mr. KRIPOWICZ. We have not. It is about the same level as 1995.

Ms. ERVIN. And we agree with you. Passive solar plays an important role in our portfolio.

Second of all, I would simply emphasize that we obviously share your concern about energy security. I think that is one of the major

losses that we would face if the Department of Energy were dismantled. And you know the Secretary's views on this.

If we want to save money, she has a strategic alignment effort underway that is going to deliver billions of dollars in savings. That is the way to really save money.

I think energy security involves a complex set of policies addressing our fossil fuels, taking advantage of natural gas, building on efficiency, and promoting renewable resources.

And you really have to look at that in concert in order to keep this country on solid ground. So I share that view, obviously.

Senator BURNS. Well, let me tell you. We are going to—as far as agriculture is concerned, we are going to find another way to put the crop in and take it out. I do not know what it is going to be, but I will tell you what, it is not going to be near as fast, and it is not going to be near as efficient.

GAS INDUSTRY PARTNERSHIP

Ms. ERVIN. Two other final points are that we do have a strong partnership with the gas industry. And a number of our major efforts are done very much in collaboration with them. We think there are many opportunities to use gas more and to use it more efficiently. And we are working with them to do that.

Finally, although it is not right in this particular budget, we have a strong biomass related set of programs that really is aiming to help farmers make money with their crops. And I think that is an important effort.

Senator BURNS. It is not going to help them until we get the price up. Period.

Ms. ERVIN. Thank you.

Senator BURNS. Thank you, Mr. Chairman.

Senator GORTON. OK. I do want to follow up on something that Senator Burns asked you.

ALTERNATIVE FUEL VEHICLES

You have a considerable appropriation and are asking for a considerably increased appropriation for Federal fleet acquisitions for alternatively fueled vehicles. Something less than one-half of those are compressed natural gas.

You also have had a very difficult time obligating money under that program. I gather, and you can correct me if I am wrong, that none of this would have been—that there is a good deal of resistance from other Federal agencies to purchase these nontraditional vehicles. But they certainly would not be doing it on their own without a program of this sort.

Why is that? Why is the market not creating an opportunity, say, for natural gas powered vehicles, which of course would have the impact that Senator Burns was talking about?

The fuel is plentiful. It is a fuel with which we are familiar. And yet this program seems to be meeting with resistance. You cannot obligate the money. As you know, the House rescission bill took all of this year's money for that program away from you. We were much more cautious on that.

What is going to happen? When are we going to create a real free market for any of these alternatively fueled vehicles?

Ms. ERVIN. Let me address that broadly, and then Tom Gross, who thinks a lot about this issue, will be happy to give you some details.

In general, we have this classic chicken and egg problem with alternative fuels. You know, on one hand, automobile manufacturers have reluctance to invest significant amounts in manufacturing large quantities of these alternative fuel vehicles until they are assured of a strong demand.

And on the other side, you have some uncertainty about making major investments in purchasing these alternative fuel vehicles until they are assured that the supply will be there and at a reasonable cost.

Senator GORTON. And a place to get fuel.

Ms. ERVIN. Pardon?

Senator GORTON. And a retail place to get fuel.

Ms. ERVIN. Exactly. And building the infrastructure that is needed. And all of that needs to come together to bring down the incremental costs associated with these alternative vehicles themselves and the fuel.

CLEAN CITIES PROGRAM

So it is a classic chicken and egg dilemma. The primary way in which we are trying to address that in our programs nationwide is using this Clean Cities Program that the Secretary started about 1½ years ago.

It is a voluntary-based program that basically calls upon the city, in some cases the State, to partner with them to expand alternative fuels, the alternative fuel of their choice.

And basically what we do is provide technical support. We give them recognition and publicity for being aggressive and showing leadership in the area.

And we provide support so that they can bring together manufacturers, utilities, local environmental groups, and whatever kinds of groups are needed to build the alternative fuels network at the local level.

The response to that program has been very, very strong. The Secretary had a goal of 25 cities by the end of last year, and we exceeded that by about 4 or 5. Is that correct?

Senator GORTON. I want you to move back, though, to your own—

Ms. ERVIN. And the final piece to clean cities is that one of the things that we bring to the table then is that we will try to place Federal vehicles of the fuel of their choice in their local area to help them with their needs.

Now specifically to your question.

Senator GORTON. OK.

Mr. GROSS. Mr. Chairman, the Energy Policy Act in our program is a multifaceted approach to deal with breaking the logjam that we have.

In many respects it is related to somebody, somewhere, a lot of people who are going to have to make investments in, for example, a couple of hundred thousand dollars apiece, for refueling stations for natural gas refueling and, at this point, incremental costs of, on

average, \$4,000 to \$5,000 apiece for a natural gas vehicle up front compared to similar conventional vehicles.

INCREMENTAL VEHICLE COSTS

Senator GORTON. Well, you have anticipated one of my next questions. That is your level of difference for a natural gas—

Ms. ERVIN. Yes.

Senator GORTON [continuing]. Powered vehicle?

Mr. GROSS. Yes, sir.

Senator GORTON. What about methanol?

Mr. GROSS. Methanol for a comparable vehicle is much less, on the order of \$500 or \$600 for a compact, light vehicle.

Senator GORTON. And electric? There is no comparable there, though.

Mr. GROSS. There is no comparable vehicle, and the cost for those that have promise on the technical side is—the incremental cost is much higher than the \$4,000 or \$5,000 for natural gas.

We are working all of these issues, but I would characterize it as a very tenuous situation right now in terms of being able to maintain the Federal and other programs out in the States and the clean cities efforts, so that they can keep momentum up to the point where numbers of vehicles will be sufficient to get the incremental costs down over a period of time.

FEDERAL FLEET VEHICLES

The Federal Fleet Program we see as an important facet in the total effort in terms of providing evidence of Federal commitment and Federal leadership in this area, so that we are carrying our part in the face of rulemaking that is affecting State fleets, alternative fuel provider fleets and potentially, under Energy Policy Act authorization, other fleet owners.

So we are looking at fleet managers and owners of all kinds to take the lead in bringing critical masses of certain types of vehicles and certain fuels together.

In the Federal fleet, we now have a little over 9,000 M-85 methanol vehicles. Those came on a few years ago. The infrastructure did not come on as promised.

Senator Burns talked about promises, that we did not develop as we had hoped in terms of matching the infrastructure and the vehicles. So those are not using methanol nearly to the extent that we would have hoped.

Senator GORTON. Well, wait. Let us go back. The Federal Government now owns 9,000 vehicles that can use methanol but can also use gasoline.

Mr. GROSS. They are flexible fuel.

Senator GORTON. How many such vehicles are there out on the roads altogether, not just Federal but in various State and local governments and private? Do you have any idea?

Mr. GROSS. In terms of methanol, I do not know the exact number. In natural gas, there are about 30,000 vehicles across the country. Federal fleet vehicles, natural gas, there are a little bit over 7,000 now. Many of those converted—

Senator GORTON. So you have about one-quarter of the natural gas vehicles.

Mr. GROSS. Sir?

Senator GORTON. We own about one-quarter of the natural gas vehicles.

Mr. GROSS. Yes.

Senator GORTON. OK. And what about the infrastructure for them?

Mr. GROSS. The infrastructure is coming along better. There are number of stations that are being built and dedicated each month with a lot of the folks in the clean cities and the commitments that are being made. A number of the clean cities do have as their primary fuel, alternative fuel, natural gas.

Senator GORTON. And pardon my question, but I assume that the natural gas vehicle is still an internal combustion engine.

Mr. GROSS. Yes.

Senator GORTON. OK. Go ahead.

Mr. GROSS. The situation that we have this year in fiscal 1995 is we have an opportunity, if we are to have the \$15 million that is consistent with the Senate action under the rescission bill, a plan where most of these funds would be provided for vehicles that would be converted, vehicles that are currently in the Federal fleet and would be converted to natural gas use. We would—

Senator GORTON. You would use it more for conversion than you will for the acquisition of your vehicles.

Mr. GROSS. Because of the low number of vehicles offered in response to the GSA solicitation last August by the auto makers, we bought a few natural gas vehicles, a few ethanol and a few methanol, but only a total of 700 that were offered.

Senator GORTON. Do all three Big Three automobile manufacturers have both available?

Mr. GROSS. No; they do not, not at this point in time.

Senator GORTON. Who does?

Mr. GROSS. Ford and Chrysler are offering natural gas. General Motors is not. At least we expect that they will be offering natural gas vehicles in the next model year as we look ahead.

Senator GORTON. When will you be able to obligate that \$15 million if you get it, or if you retain it, I suppose is the better word?

Mr. GROSS. Well, one of the issues right now is, if we were to move some of the money currently at GSA that has not been spent because there were no vehicles bid to other agencies that have conversion contracts in place, Department of Defense and the Postal Service in particular, which have done an excellent job at providing most of the natural gas vehicles that we have in the Federal fleet, those funds could be obligated in the next few months.

And the vehicles could be delivered—the conversions could be accomplished over the next to 6 to 8 months most likely.

The issue is that we know that in model year 1996 there will be some alcohol vehicles, specifically ethanol vehicles, available that Ford has indicated it is going to produce.

And we are certainly interested in having a mix of vehicles in the Federal fleet which we can get a base of experience on and provide information for vehicle improvement and so on.

So one of the issues that we are addressing now is a plan which would enable us to move sufficient money to the agencies that could spend it on natural gas conversions so that we could meet the

Energy Policy Act number of 10,000 vehicles additional this year with some funds left that we could carry over into the next model year allowing some flexibility there.

Senator GORTON. In your own private view, which of these alternative fuel vehicles offers the most promise?

Mr. GROSS. Well, I think that they all have a tremendous amount of promise in terms of helping to achieve the goal that we need, which is oil displacement. One of the ones that we are particularly—

Senator GORTON. Well, if that is your only goal, I would guess methanol and ethanol are the least, are they not, because you still have to use a great deal of petroleum?

Mr. GROSS. The E-85 and M-85 are 85-percent methanol or ethanol.

Senator GORTON. What percentage of methanol is petroleum?

Mr. GROSS. It is—well, the primary source for the methanol is natural gas.

Senator GORTON. Oh, OK.

Mr. GROSS. And there is—there are obviously multiple options for producing the ethanol.

Senator GORTON. Go ahead.

Mr. GROSS. One of the things that is most exciting to me as we look down the road and concentrate on getting an ethanol infrastructure in place for ethanol vehicles is in combination with the biomass program that Christine talked about.

If we can make ethanol from biomass cost effectively, say by about the year 2000 or shortly thereafter, then we will have a tremendous opportunity to make that fuel from waste materials, from grasses and trees and those sorts of things, which we are using as feedstocks in our development program at this point, tremendously increasing the base of domestic resources for that purpose.

Senator GORTON. So under those circumstances, from a perspective of energy and dependence, that might rank No. 1.

Mr. GROSS. That is very exciting. And as we look at the opportunities, as have been pointed out, for using the natural gas that we have domestically with the current price, if we can work with the fuel providers and with the automakers and find ways in which to get the incremental costs down at the front end for consumers, for purchasers of the vehicles, then it is another great source.

I really hesitate to say one is better than the other.

ELECTRIC VEHICLES

Senator GORTON. Well, let us go back to one, and I think this will be my last question. We have been pursuing this will of the wisp of an electric automobile for, what, since 1900, something like that? With all of these more promising alternatives, is it not time to let that one go?

Mr. GROSS. Well, I think not quite yet.

Ms. ERVIN. No.

Mr. GROSS. There has been a lot of money that has been invested by the taxpayers—

Senator GORTON. There certainly has been.

Mr. GROSS [continuing]. Since the late seventies under the Energy Research Act in 1976. But a significant change in how the pro-

gram was planned, developed and managed occurred a few years ago when the Department of Energy entered into a cooperative agreement with the U.S. Advanced Battery Consortium.

And a very serious effort at the front end of that endeavor was made by the auto manufacturers, which have to put these batteries into the vehicles eventually, to work with us on defining the technical and cost specifications that are going to be required of the batteries in an electric vehicle.

In response to those specifications, solicitations were made by the partnership for proposals for battery development. And a couple of promising developments have occurred as a result of that program.

This is a cell from a nickel metal hydride battery, which is passing the technical tests associated with the U.S. Advanced Battery Consortium Program. It is doubling the range for the same size, the same volume and weight of battery as a current lead acid battery.

And we think there is a lot of excitement in terms of getting an electric vehicle that will be able to meet performance requirements and all of the other consumer expectations of a conventional vehicle.

We still have some work to do to get the cost down. As in so many parts of our program, the challenge—Senator Burns mentioned the cost of vehicles and other equipment—

Ms. ERVIN. The economies of scale that are needed.

Mr. GROSS. There is no way that we will be successful if we cannot break through the barriers to have these radically different vehicles be available for costs that are competitive with conventional.

Senator GORTON. Thank you.

Ms. ERVIN. One of the interesting discussions that has taken place with electric vehicles, too, and there are various views on this, is are we expecting too much out of an electric vehicle?

In other words, do consumers really need to have the full 300 miles of range from an electric vehicle, or is there a niche market, an important niche market, in our cities that would encourage electric vehicles to be used for commuting?

For example, one of the manufacturers is testing an electric vehicle in a number of the markets, and they are finding that many of the consumers are saying: "Gee, I do not need to have as much range as I thought I did, 100 miles gets me to and from work several times a week, and I can recharge easily at home."

If that is the case, and if we were starting to produce in that way, then you could reduce some of the demands that you would have on an electric vehicle.

There are other points of view, though, that want to develop a vehicle for a broad range of services.

Senator GORTON. Let me go on. I do not have an awful lot more time.

Ms. ERVIN. OK.

WEATHERIZATION ASSISTANCE PROGRAM

Senator GORTON. Let me go on to another subject, weatherization.

Ms. ERVIN. Yes.

Senator GORTON. What proportion, what share, of your weatherization programs are direct investments into Federal Government facilities or government-controlled facilities that save money for the taxpayers directly, such as the programs you described for Fort Lewis or for HUD-owned or assisted housing, as against weatherization programs that are simply done for various people in the private sector in a form of subsidy one way or another?

Ms. ERVIN. Well, the main weatherization program that we have is for low income houses, and that is by far the great majority of the weatherization program. That is about \$229 million in our entire request. So those are private houses only, low income houses.

Senator GORTON. All right.

FEDERAL ENERGY MANAGEMENT PROGRAM

Ms. ERVIN. And then in the Federal Energy Management Program, FEMP, that we talked about, that total budget is \$23 million. And that is all directed, 100 percent, to Federal facilities.

The HUD effort that we were talking about is \$5 million.

Senator GORTON. OK.

Ms. ERVIN. But the vast majority—

Senator GORTON. But close to 90 percent is for low income housing.

Ms. ERVIN. Absolutely.

PULP AND PAPER

Senator GORTON. One other question. I note in the back of my book here a modest program of \$4 million or so for the pulp and paper industry in connection with drying.

At one level I am relieved to see that one element of the Federal Government is helping where the Environmental Protection Administration is busily engaged in the process of driving them all out of business. I wish the two were more closely coordinated.

But these, by and large, are fairly large companies. Why in the world does there need to be a \$4 million Federal program for something so significant as better or more efficient drying technologies in pulp and paper mills?

It would not seem to me that that is something that could not every bit as easily be carried on by the private sector itself. They must have a real interest in it.

Ms. ERVIN. I bet Denise Swink would really like to answer this question.

Ms. SWINK. Sure.

Ms. ERVIN. I am going to give her that chance.

Senator GORTON. OK.

Ms. SWINK. Specifically for the impulse drying, the technology is of interest throughout the industry because industry right now is paper drying capacity limited.

And this is a retrofit that could, when integrated into the existing system, increase the drying capacity by 80 percent. That is productivity, great energy performance, and great environmental performance.

Now, the question about why does the industry not just do it by themselves, it is still a high risk technology. Beloit is the manufac-

turer involved, who manufacturers paper drying machines right now.

The Institute for Paper Science and Technology is really the know-how part of the process. They have the ceramic technology that is going to be employed there.

There are several paper companies that are interested, but the one that has stepped forward and said that they would like to be part of the pilot is Union Camp.

The phase that we want to go into is really a full-scale pilot phase, and we believe that if we are successful in the full-scale pilot, that the actual demonstration and further commercialization will be embraced by the other six or seven paper companies that have shown an interest.

Senator GORTON. Are you telling us, then, that this is a one-time investment?

Ms. SWINK. For this technology, correct. Correct. Our philosophy is to—since this is too risky for one company to go alone on it, from this pilot all the way through commercialization, we will leverage getting the pilot out. And then it is up to the industry to take it after that.

Senator GORTON. Thank you.

We will have a number of other questions for you that I think we will submit in writing. I have to be on the Senate floor soon.

Ms. ERVIN. OK.

FISCAL YEAR 1996 BUDGET PRIORITIES

Senator GORTON. But I do want to go back to my first remarks. You do have a fascinating job, and you have this wide range of projects. I think we may have ended up putting them into one of four different categories. I know how enthusiastic and perhaps defensive you feel about each one of them.

But I think I just have to share with you that they are not all going to be there in the form that you have submitted in this budget. We cannot get from here to there in our other more macro tasks with respect to the budget of the country as a whole.

And within the range of what we can come up with for these energy research and conservation programs, I certainly will want to depend on the experts who can judge what their promises are, what their cost benefit ratios are, in any directions that we give.

So as difficult as it is going to be, I think it is very important for you to come up with priorities and tell us at 10 percent less or 20 percent less or more than that less what your priorities would be, what would have to go by the board and what you would want to continue. That is very difficult for us to judge without your expert advice.

Ms. ERVIN. I would be happy to work with you and your staff.

Senator GORTON. So we look very much to that, as difficult, as I say, as difficult, I know, as the task will be for you and your associates here.

Obviously, there are many of these programs that have real promise for future technology in the country. And there may very well be some that the private sector can carry on without you.

And at the other end, there may be some that are very important that would just be dropped entirely, if you were not encouraging on doing them.

So anything you can do to help us come up with the right answers in difficult times will be appreciated by us, and I think it will help you in carrying out your own duties.

Ms. ERVIN. We will be happy to do that.

ADDITIONAL COMMITTEE QUESTIONS

Senator GORTON. There will be some additional questions which will be submitted for your response in the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing.]

ADDITIONAL COMMITTEE QUESTIONS

BUDGET CONSTRAINTS

Question: Why is federal funding necessary for developing and deploying energy efficient technologies? In your opinion, what is the appropriate federal role in developing and deploying energy efficient technologies?

Answer: Federal funding is necessary for the following reasons:

- 1) U.S. Energy Security requires a federal role. Federal funding for developing and deploying energy efficient technologies remains a national priority because in 1994, imported oil cost U.S. taxpayers \$60 billion. Oil imports are currently projected to reach \$150 billion per year by 2020, when the U.S. will be 70% dependent on imports. Energy Security has been a priority since the 1970's and continued investments in energy efficiency technologies will help reduce our reliance on imported oil.
- 2) The environmental benefits associated with energy efficient technologies require a federal role. Rather than rely on "unfunded mandates" and "command and control" regulations, DOE makes short-term, high impact investments in new energy efficient technologies to accelerate their development and deployment in the market force. New energy efficient technologies "prevent pollution" by reducing the energy required to run U.S. businesses and automobiles and heat U.S. homes. DOE programs will help reduce annual air pollution emissions by the equivalent of nine million metric tons of carbon dioxide in 2000 and 34 million metric tons of carbon dioxide in 2010.
- 3) DOE's investments help to maximize the national security, environmental and economic competitiveness benefits of new energy efficient technologies. DOE's investment approach is NOT intended to replace the market. DOE favors the least intrusive, most efficient approach possible to get new energy efficient products and technologies into the marketplace. DOE's investment approach may be characterized as follows:
 - DOE provides a small, but critical portion of R&D investment and expertise which, over time, declines to zero and is replaced by 100% private sector funding.
 - DOE targets investments in technologies which will yield a large return to the taxpayer through the public benefits of 1) decreased energy costs for consumers; 2) increased economic competitiveness of U.S. businesses; 3) environmental pollution prevention and 4) national security.
 - DOE targets some technologies which will require long-term, high risk research.
 - DOE targets its investments to those areas which are of critical interest large energy consumers and industries which provide substantial matching funds.

Question: How would you approach reductions of 10 percent, 20 percent and 50 percent? To what extent would industry be required to contribute more cost-sharing? How many programs would be eliminated as opposed to being stretched out?

Answer: We fully appreciate the difficult decisions Congress must make in determining allocations for programs. Currently, we are completing a comprehensive review of the Energy Efficiency programs to permit an objective prioritization based on criteria such as energy provided or saved, reduction in oil imports, pollution avoided, return on investment, and jobs created. This process is necessarily dependent on a tremendous amount of analysis, stakeholder input, and objective review--work which is on-going. It would be premature to identify lower-priority activities before this analysis is completed. However, the FY 1996 Congressional Budget for Energy Efficiency programs is a balanced program of R&D, commercialization, and long- and short-term activities and represents a budget objectively aligned with essential, national goals:

satisfying the Nation's energy needs, reducing our vulnerability to oil shocks, protecting the environment, and improving the economy. These goals are being achieved throughout the many energy efficiency programs. The results are manifested in the many energy efficiency accomplishments and successes to date.

The Office of Energy Efficiency and Renewable Energy has been working with Congressional staff to review budget priorities and will continue to do so. Cost sharing is a key component of the Efficiency Programs and this feature would continue to receive emphasis to ensure that industry contributes the maximum cost sharing in order to offset reduced government funding, but the amount of cost sharing would be determined on an individual program basis.

The number of programs which would be eliminated as opposed to being stretched out as a result of funding reductions of up to 50% is unknown. In FY 1995, funding for Efficiency Programs increased approximately 15% and 137 projects are planned to be completed or reduced. This includes 47 in Buildings Technologies, 52 in Industry Technologies, 24 in Transportation Technologies, 4 in Utility Technologies, and 10 in Technical and Financial Assistance Programs and are the result of program objectives being met. Funding reductions of up to 50% would significantly increase the number of program reductions and stretchouts.

FEDERAL INVESTMENT IN ENERGY CONSERVATION

Question: Between FY 1992 and FY 1995, the Energy Conservation program overall grew by approximately \$195 million, or about 33 percent. Between FY 1992 and FY 1995, the non-grant portion of the program grew from approximately \$356 million to about \$514 million, or about 44 percent. The grant portion of the program grew from approximately \$240 million to about \$279 million or about 16 percent. The greatest dollar growth occurred in the transportation sector, which grew from approximately \$109 million in FY 1992 to approximately \$206 million in FY 1995, or about 89 percent. Some have suggested that the growth has been too large and too quick, and has not been accompanied by any significant accomplishments for the over \$2.5 billion that has been invested in these programs. What tangible results has the American taxpayer received from this investment of over \$2.5 billion?

Answer: There are several tangible results that American taxpayers have received as a result of DOE investments in energy efficiency and renewable energy technologies:

- 1) **DOE investments save consumers money.** Federal investments in energy technologies have a high return rate in cost savings for taxpayers. According to the bi-partisan Congressional Research Service (CRS), the federal government has spent a total of \$5.7 billion on energy efficiency technology research since 1973 and since then, improvements in the Nation's energy efficient technologies saved taxpayers \$225 billion in energy costs. Many observers note that DOE has been responsible for accelerating many of these energy efficient changes in the nation's economy.
- 2) **DOE investments protect the environment.** Federal investments in energy technologies have a high return rate in protecting the environment. As U.S. businesses spend approximately \$150 billion each year on environmental protection devices and cleanups, DOE's rapid introduction of cleaner, more efficient energy technologies can ameliorate pollution problems without inflexible regulations and additional costs. DOE's approach of developing new energy technologies is the opposite of a "command and control," unfunded environmental mandate. New energy technologies protect the environment without imposing new costs on businesses.
- 3) **DOE provides R&D seed money which leverages private funds.** U.S. businesses are investing increasing amounts of matching funds in DOE led energy research and development projects. DOE works closely with large and small businesses to identify limited term, high impact research and development projects. While several DOE programs require the private sector to provide 50% of R&D cost, virtually all of DOE's R&D projects are attracting increasing amounts of private sector funding. DOE invests in a small, yet critical portion of

energy technology R&D, in which, over time, the share of government investment decline and the private sector share increases of 100%.

- 4) **DOE funds R&D projects which benefit all U.S. businesses.** DOE works with large and small businesses to identify R&D projects which have the potential of benefiting entire industries. For example, DOE programs to increase the efficiency of the electric generating turbines which utilities use, or the electric powered motors which manufacturers and industries use, lowers energy costs for all U.S. businesses. By helping to develop energy efficient industrial processes, cars, and appliances, DOE's research benefits all taxpaying citizens and businesses not just individual corporations.
- 5) **DOE's investments make U.S. technology more competitive internationally.** Federal energy technology funding helps U.S. businesses keep up with foreign competition. With an increasingly global marketplace, firms have less time to get products and technologies from labs into the market. At the same time, foreign governments in Europe and Japan are devoting increased funding to non-defense technology R&D. U.S. government funding for energy technology R&D helps fill a gap in the private sector venture capital available for state-of-the-art energy technologies. In addition, unlike government funded R&D programs in Europe, DOE's projects focus on the technological issues and leave the production and manufacturing of products up to the private sector.
- 6) **DOE investments have been successful.** Federal investments in energy technologies have helped companies commercialize more than 100 products with aggregate annual sales of more than \$1 billion. Just three examples are high efficiency electronic ballasts (\$275 million in sales in 1992), photovoltaic cells (\$130 million per year in exports alone) and energy saving windows (\$700 million per year). These and other energy products are cutting energy cost for consumers and protecting the environment at the same time.

For example, high efficiency electronic ballast lighting systems cut energy costs by 35% and have already saved consumers \$700 million. As they reach market saturation in the next decade, the electronic ballast technology will save consumers \$4.5 billion each year, an excellent return rate on DOE's initial investment of \$3 million on energy technology R&D.

DOE programs have also boosted sales of U.S. energy products abroad. Since July 1994, Secretary O'Leary has signed trade agreements in India, China and Pakistan for more than \$2.7 billion in U.S. made renewable energy products and \$486 million in U.S. made energy efficiency products.

Question: What technologies developed through the Energy Conservation program entered the commercial marketplace during that period of time? For these technologies, were there any specific commercialization functions performed by the Energy Conservation program?

Answer: During this time period, federal investments in energy efficient technologies have helped companies commercialize more than 100 products with aggregate annual sales of more than \$1 billion. These products include, but are not limited to, the following:

- **MORE EFFICIENT LIGHTING TECHNOLOGIES.** Lighting costs U.S. businesses and consumers nearly \$40 billion each year. The strategic use of research dollars can trim billions from this annual bill. DOE's early work on the electronic ballast illustrates the payoff from lighting research and working with industry. Virtually unknown in the mid 1970s when the \$3-million DOE research effort began, the electronic ballast today has captured a nearly 25% market share, with annual U.S. sales of about 24 million units (\$200 million retail value). It has already saved \$400 million in consumer energy bills. Net savings will grow to \$13 billion by the year 2015. In current research efforts, DOE has transferred new light fixture design strategies to all major U.S. manufacturers and is fostering the development and commercialization of the world's most efficient white light sources. Other work on the effect of various types of light sources on humans may revolutionize the way efficiency and lighting are measured and thereby improve productivity in the workplace.

- **NEW HIGH EFFICIENCY WINDOWS.** Energy lost through residential and commercial windows cost U.S. consumers about \$25 billion a year, a loss comparable to the value of the oil delivered by the Alaska pipeline. DOE pioneered the commercialization of "low-emissivity" windows and labeling systems, which reduce the energy lost through normal, double-glazed windows by 35%. Thanks to DOE's close collaboration with window manufacturers, and a DOE investment of \$3 million, the market share for these advanced windows has reached about 35% (with an annual market value of \$630 million). Cumulative U.S. energy savings to date from these windows is \$760 million and will reach \$17 billion-net of added up-front costs by 2015.
- **SETTING THE STANDARD FOR ENERGY EFFICIENCY.** Residential consumers spend \$10 billion each year on energy for appliances and heating and cooling equipment. At DOE, our energy policy work includes developing and analyzing appliance standards, many of which have become law. The standards have already saved U.S. consumers \$1.9 billion and will result in a \$58 billion savings, net of extra up-front cost, by the year 2015. The cumulative federal investment has been \$50 million - just one one-thousandth of the benefits realized by consumers. Extending these standards to commercial-sector products can pay even higher dividends.
- **TOOLS FOR BUILDING DESIGNERS.** Operating residential and commercial buildings in the U.S. costs consumers almost \$210 billion each year. New technologies can reduce this cost, but they can be optimally deployed only with proper design tools. DOE incorporates the knowledge gained over a decade and a half of building energy research into new computerized analytical and design tools, the most important of which is DOE-2. About 5% of commercial floor space today is designed with DOE-2. Based on a recent survey of major users of the program, DOE-2 facilitates a savings of \$85 million annually in energy bills--about \$1.9 billion cumulatively for U.S. buildings constructed with the help of DOE-2 through 1993. California building standards (developed using DOE-2) save consumers almost \$1 billion each year. Efforts to make existing tools more user friendly are projected to boost their application to 50% of all buildings.
- **METHANOL RECOVERY FMC CORPORATION, PASADENA, TEXAS.** Approximately 436 million pounds of hazardous methanol wastes are produced in the United States each year in manufacturing chemicals. The wastes are burned in incinerators, an expensive and energy-intensive process.

High methanol disposal costs, as well as increasing methanol production costs led the Department of Energy (DOE) and the Environmental Protection Agency (EPA) to work with FMC Corporation in finding a way to recover and reuse methanol at FMC's hydrogen peroxide plant in Pasadena, Texas. With the assistance of a \$96,000 grant from the National Industrial Competitiveness Through Energy, Environment and Economy (NICE₁) Program, a joint DOE-EPA cost-sharing grant program, FMC Corporation has developed a new method of steam distillation to recover and reuse 90% of the contaminated methanol.

Recycling methanol provides significant energy and economic savings, a cleaner environment, and the added benefit of improved worker safety because the new process is less flammable and explosive than alternative distillation processes. Based on actual operation in one plant in 1992, the new process saved almost two million pounds of methanol, produced energy savings of 25.2 billion Btus-energy to satisfy the electricity needs of 750 Americans for a year - and saved FMC more than \$500,000 in operating costs. FMC plans to replicate the technology at five additional plants, and the State of Texas is assisting in technology transfer.

- **RIISING STAR: ETHANOL.** During the summer of 1994, researchers at the U.S. Department of Energy's National Renewable Laboratory (NREL) announced a breakthrough that brings biofuels closer to commercial use.

NREL researchers are using genetic engineering to increase the efficiency of a fermentation process that turns a natural substance called hemi-cellulose into grain alcohol, or ethanol. The

new process produces ethanol from a much wider range of sugars found in agricultural, forest and industrial wastes -- materials like corn fiber, sawdust, waste paper and municipal solid waste. As a result, much more ethanol can be obtained from a given amount of these wastes.

Because of past research by NREL and a few U.S. industries, the cost of ethanol has gone from \$3.60 per gallon in 1980 to \$1.22 today. NREL's goal is to get the price down to 60 cents a gallon.

Ethanol already has been used as a transportation fuel in the United States, most often blended with gasoline. Ethanol produces 90% less carbon dioxide than gasoline. Using more of it would reduce global warming emissions and U.S. dependence on foreign oil, and create new U.S. jobs -- 17,000 for every billion gallons consumed, according to NREL.

Widespread use of biofuels will create a new cash crop for farms, reduce federal farm subsidies, and create usable energy from products that now are discarded as wastes.

- **RISING STAR: SOLAREX.** On January 1, 1995, two of the nation's largest companies -- Amoco Corp. and Enron Corp. -- launched a joint venture to boost worldwide commercialization of photovoltaic power.

Over the last 15 years, the price of PV power has dropped two-thirds because of research by industry and the U.S. Department of Energy (DOE). But as 1995 began, PV power still cost about 20 cents a kilowatt hour. That price is competitive in remote areas not connected to utility grids, but still not competitive with the cost of conventional electricity, whose retail price averages eight cents a kilowatt hour nationwide.

In the summer of 1994, Enron Emerging Technologies Inc. announced it was willing to invest \$150 million in a PV power plant and sell PV at 5.5 cents a kilowatt hour at the new Solar Enterprise Zone in Nevada -- an offer that sent "gasps of disbelief" through the industry, according to Electric Power Alert.

The joint venture between Amoco and Enron brings unprecedented financial clout to the PV industry.

The two companies announced that they will build a photovoltaic manufacturing plant. The site selected in Virginia was announced during the first half of 1995 and construction will begin later this year. Production at the plant will begin in 1996. The companies will manufacture in excess of 10 MW of large area, multijunction amorphous silicon modules annually.

This investment will help the United States keep the lead in a potential world market for photovoltaic electric generation capacity. (Although the U.S. invented PV, we lost the global lead to Germany and Japan for a number of years, and have recently recaptured it.)

Providing new U.S. jobs. The Amoco/Enron manufacturing facility was the second such announcement in a one year. DOE also played a role in the announcement in January 1994 that Energy Conversion Devices of Troy, Michigan, will build a new manufacturing plant in Virginia.

- **DUAL CURE COATINGS, 3M, ST. PAUL, MINNESOTA.** Solvents used by industry in paints and other coating systems are a significant source of volatile organic compounds (VOCs) a major cause of smog. The Clean Air Act amendments of 1990 that require reductions in VOC emissions have created a market for alternatives to existing processes.

Under a competitively awarded cost-shared contract with DOE, 3M has developed a low solvent technique that uses light to "cure" the coatings. This process, which produces superior physical properties with minimal VOC emissions (an amount below California standards), can replace solvents in coatings, inks, and adhesives. Initial markets include grinding disks

fabrication. Potential markets include aircraft topcoats and primers, and coating for the backing of high-temperature electrical tape.

Based on a conservative 10% market penetration projection, the new coatings will eliminate an estimated 260,000 tons of VOC emissions annually. According to the Environmental Protection Agency, this is 7.5% of the 3.5 million tons of VOCs emitted annually in the U.S.

The low-solvent process will also reduce carbon dioxide emissions by an estimated 2.2 million tons a year, supporting the U.S. commitment to reduce greenhouse gas emissions. By the year 1010, 3M's new coatings could save an estimated 25 trillion Btus of energy--that's more than all the electricity used in all the commercial establishments in the state of Iowa. Put another way, that's a savings equal to the annual output of 1.3 larger nuclear power plants.

- **ENERGY-RELATED INVENTIONS PROGRAM.** The Energy-Related Inventions Program (ERIP) accepts ideas from inventors and has them evaluated by the National Institute of Standards. Good prospects for success receive grants to develop and commercialize new energy technologies.

ERIP is the most cost-effective government sponsored technology development program. The greatest program strength is that it unleashes the inventive genius of individuals and small businesses by "steering rather than rowing."

The program offers an open topic and application process, assistance with critical pre-production prototype stage funding for new technologies development, emphasis on private sector market and commercialization planning, and waiving any government ownership rights to the resulting intellectual property.

Success is measured by private sector sales, licensing revenues, and employment impacts.

An evaluation of the program by Oak Ridge National Laboratory reported these beneficial results from the disbursement of \$42 million in technology development grants:

- Total cumulative sales of more than \$763 million,
- Successful market entry of 129 technologies,
- Cumulative energy savings of \$531 million, and
- Cumulative carbon emissions reduced by one million metric tons.

With \$42 million in grants awarded by ERIP from 1975 through 1992, and \$763 million in program appropriations over the same period, ERIP has generated a 19.1 return on the grant dollar, and a 7.1 return in sales versus program appropriations. An estimated 23% of all ERIP inventions achieved sales by the end of 1992.

Employment and tax benefits were also significant. In 1992, an estimated 668 full time equivalent employees were working on technologies formerly sponsored by ERIP, resulting in \$2.7 million in individual income taxes being paid to the U.S. Treasury. This total is greater than the 1992 ERIP grants.

Question: How many more technologies developed through funding from the Energy Conservation program are expected to enter the marketplace during FY 1996?

Answer: The following technologies are expected to enter the marketplace during FY 1996.

I. Examples from the Office of Industrial Technologies

- A) **Ultralight Aerogels.** Working with private sector manufacturers (Aerojet-GenCorp) and industrial users of automotive, aerospace and refrigeration products, the Department of Energy helped develop ultralight aerogels, the lowest density, highest porosity transparent solid ever made. One inch of aerogel offers the same amount of insulation as 10 inches of fiberglass. Installation of aerogels could provide power reductions in refrigeration systems

of 60 to 80% and aerogels represent a leading technology option for the replacement of insulations blown with ozone depleting CC.

NOTE: The most recent technological breakthrough involved the development of processes which could produce aerogels at relatively low temperatures (50° Celsius rather than 300° Celsius). (See the attached March 30, 1995 Wall Street Journal article).

- B) **Ultrasonic Tank Cleaning Methods.** Through the NICE³ Program, DOE has worked with the Dupont-Merck Pharmaceutical Company to demonstrate a method invented by a Swiss company to clean chemical storage tanks without using solvents. The process uses ultrasonic cleaning with a water-based working fluid. The ultrasonic cleaning process uses far less energy (3.5 billion btu's less per unit per year) and could save companies as much as \$290,000 per year per unit in cleaning costs. In addition, the new ultrasonic process produces no hazardous wastes, allowing Dupont-Merck to reduce total hazardous waste generated at its New Jersey facility by 45%.

Dupont-Merck is already presenting seminars to other industrial storage tank users and ultrasonic cleaning technologies are expected to be adapted by several industries in the next two years (See the attached ultrasound cleaning technology brochure).

- C) **Nickel Aluminide Materials.** Working with several different producers, the Department helped develop new applications of a material named nickel aluminide for industrial and manufacturing processes. Industrial components made from nickel aluminide offer superior resistance to oxidation, higher operating temperatures, better wear resistance in corrosive environments and high strength at high temperatures. Rapid Technologies, Inc. of Georgia and Metallamics, Inc. of Michigan are beginning to manufacture and market nickel aluminide products for a variety of industrial applications.

II. Examples from the Office of Transportation Technologies

A) Ceramic Component Materials.

- 1) Working with the Carborundum Company, the Department helped develop a sintered silicon carbide ceramic material which can be used for automotive parts. This new ceramic material will be used this year to make water pump seals in 30% of U.S. made automobiles. Other applications of this heat resistant, high durability material are expected in the next two years.
- 2) Working with the Allied Signal Corporation, the Department helped develop silicon nitride ceramic materials for rocket engine turbine pumps and industrial gas turbines. This new material is very reliable in high temperature engine applications. New applications of this ceramic material are expected in the next two years.

- B) **Nickel Metal Hydride Batteries.** Working with a consortium of battery manufacturers, the Department helped develop new, more compact and more powerful nickel metal hydride batteries. Vehicles using this new battery technology have doubled the driving range of vehicles powered by conventional lead acid batteries. Continued research and new commercial applications of the nickel metal hydride batteries are expected in the next two years.

III. Examples from the Office of Building Technologies

Note - these building technologies are expected to reach initial commercial use in FY 1996.

- A) **The Sulfur Lamp.** Invented by Fusion Systems, Inc. of MD, combined with a light pipe from Whitehead, Ltd., and 3M Corp., prototypes supported by DOE are being demonstrated at the DOE Forrestal Building and the Smithsonian Air and Space Museum.

First commercial versions are expected to become available on the market in mid-FY 1996. Initial applications are expected to be in outdoor commercial use, arenas, aircraft hangers, factories and similar applications where large lighting areas are involved.

These systems produce high quality light, use approximately half the energy as conventional lighting, are expected to have very long lives and low maintenance, and contain no harmful mercury.

Research is continuing on the difficult technological challenge of reducing size for use in broader applications currently using conventional fluorescent lighting such as large offices.

- B) **The PowerDoe/Building Design Advisor.** PowerDoe (a building simulation computer model) and Building Design Advisor (an architect's preliminary design model which uses PowerDoe) are under development in conjunction with EPRI and several utility companies with approximately 60% industry cost sharing.

PowerDOE is an outgrowth of the DOE-2 model which has been used by architect/engineering firms to design more than 5% of new commercial office space over the past 15 years saving more than \$2 billion in energy bills. It is, however, difficult to use and cannot be used well until the building is fairly well designed.

The Building Design Advisor can be utilized during the preliminary design phase aiding the critical initial decisions which affect basic building energy consumption. It is expected that in late FY 1996, commercial software companies will license and sell the software packages to architects and engineering firms.

A less sophisticated energy consumption estimating system, based on DOE support and a CRADA with SoftDesk, the largest supplier of architectural computer-aided design software (SoftDesk Auto-Architect), is entering the market this year.

- C) **Flame Quality Indicator.** Developed by Brookhaven National Laboratory, this low-cost device utilizes an optical sensor in an oil furnace which indicates the flame conditions and provides an alert for out-of-tolerance mixture conditions. Such conditions lead to soot buildup, potential safety hazards, and pollution.

Providing such an alert to the owner reduces the probability of emergency shutdowns; maintaining flame quality means efficient fuel burning and reduced energy bills.

Three companies have licensed the device, one is in pilot testing and a second has introduced an initial model this heating season. Both are continuing development and it is expected in FY 1996 that a more sophisticated model which includes automatic phone alerts to the oil service dealer reducing expensive unplanned callbacks and maintaining the oil burner conditions at maximum efficiency.

- D) **Residential Absorption Gas Heat Pump.** Phillips Engineering, a small business in Michigan, supported by Oak Ridge National Laboratory developed a new ammonia-water absorption cycle heat pump. This process does not utilize harmful CFC or HCFCs used in conventional systems and is more energy efficient.

Last year, United Technologies, the parent company for Carrier Corporation, the world's largest manufacturer of heating and cooling equipment, signed an agreement to develop, commercialize, and market the system. Prototypes are expected to be field tested in 1996 with commercial production and sales starting approximately a year later.

IV. Energy Efficiency and Renewable Energy's International Trade Programs

Since July 1994, Secretary O'Leary has signed trade agreements in India, China and Pakistan for more than \$2.3 billion in U.S. made renewable energy products and \$486 million in U.S.

made energy efficiency products. These sales involve energy efficient products such as gas compressors and bagasse-fired cogen equipment and renewable energy equipment such as photovoltaic and wind power generators.

The Department of Energy's recent success in helping install more than 2,000 photovoltaic systems in rural Brazil has led several U.S. PV manufacturers to conclude that there is a growing niche market for PV products in the developing world. These domestic manufacturers can be expected to continue marketing U.S. made PV products (with the Department assistance) in FY 1996.

[From the Wall Street Journal, Mar. 30, 1995]

Scientists Close In on Practical Aerogels, Insulation That's Almost as Light as Air

(By Amal Kumar Naj, staff reporter)

Scientists took a major step toward the practical manufacture of some novel insulating materials that are almost as light as air.

The materials, known as aerogels, have fascinated and frustrated scientists and engineers ever since they were invented in 1931. Although solid, the foam-like aerogels can consist of 99.9% air and are transparent, making them ideal heat insulators for double-paned windows, as well as for refrigerators, thermos bottles, and walls. One inch of aerogel offers the same amount of insulation as 10 inches of fiberglass. Aerogels also are ideal insulators for damping sounds.

A group of scientists in New Mexico reported that they developed a process that makes it possible to produce aerogels at room temperature and pressure, overcoming 60-year-old hurdles that have prevented their commercial applications.

"We anticipate that [the new process] will greatly expand the commercial applications of these materials," Jeffrey Brinker and his colleagues reported in this week's issue of the journal *Nature*. The researchers are from Sandia National Laboratories and University of New Mexico in Albuquerque.

Aerogels are made of clusters of atoms linked to each other by chemical bonds that are unusually flexible. The linked clusters create an intricate web containing such vast numbers of empty pockets that the aerogel is almost nothing but air. One gram of aerogel might have as much as 1,000 square meters of surface area, scientists calculate.

Like a "super sponge," an aerogel can be squeezed down to a tiny fraction of its original volume, and when it's released, it springs back to its original shape.

But until now, aerogels have been little more than a laboratory curiosity. The chemical process that creates the tiny pockets of empty space has been too expensive and risky for any large-scale commercial production. In an aerogel made of silica, for instance, the gel material has to be subjected to temperatures as high as 300 degrees Celsius and pressures as high as 1,500 pounds a square inch.

"The disadvantage is that this pressure-cooker approach is both hazardous and expensive," the researchers said. Indeed, at least one serious accident is known to have happened, at a Swedish company in 1984, when its pressure vessel broke and the ingredients exploded.

The new process works at room temperatures and pressures, opening the way to producing the aerogels by a cheap continuous process rather than an expensive batch process. The New Mexico researchers said they made aerogel with 98.5% porosity using the process.

"This is certainly a significant advance in the right direction. Everybody has been striving to get away from the high-pressure process," said Wayne Sawka, product manager of advance materials at the Aerojet division of GenCorp. Aerojet, in Sacramento, Calif., has been manufacturing aerogel at a pilot plant for the last four months with a process that uses temperatures in the range of 50 degrees Celsius and pressures of 1,200 pounds a square inch. "It's very expensive," he said.

ULTRASONIC CLEANING OF TANKS AND REACTORS

RESULTS OF A RECENT RESEARCH PROJECT

**DOES YOUR COMPANY USE
TANKS OR REACTORS TO PREPARE
BATCHES OF CHEMICALS
OR PHARMACEUTICALS?**

**DO YOU NEED TO CLEAN
VESSELS BETWEEN BATCHES?**

**DO YOU CURRENTLY USE A SOLVENT
AS THE CLEANING AGENT?**

If this describes your operation here is an opportunity to find out more about a new application for a cleaning method that substitutes water, mild detergent and ultrasonic power for solvent-based cleaning. The data obtained during this demonstration project indicates that the ultrasonic (sound wave) process is so cost-effective that the modest initial investment can be recovered in a few wash cycles.

Detailed information about this cleaning process and results of the demonstration project conducted at The DuPont Merck Pharmaceutical Company in Deepwater, New Jersey, will be presented at this free seminar.

S P O N S O R E D B Y

**The DuPont Merck
Pharmaceutical Co.**

United States Department of Energy

New Jersey Board of Public Utilities

Division of Energy Planning and Conservation

**New Jersey Department of Environmental
Protection**

New Jersey Institute of Technology

United States

Environmental Protection Agency

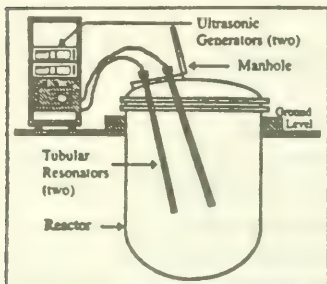
ABOUT THE RESEARCH PROGRAM & PARTICIPANTS...

The United States Department of Energy (USDOE) and United States Environmental Protection Agency (USEPA) are sponsoring an energy conservation and pollution prevention demonstration project to determine the quality and cost effectiveness of cleaning various sizes of industrial chemical reactors using ultrasonic technology as a substitute for solvent based cleaning. This project is partially funded by a grant from the USDOE *National Industrial Competitiveness through Efficiency, Environment and Economics (NICE-3)* program. It is being conducted at The DuPont Merck Pharmaceutical Company in

Deepwater, New Jersey, which is providing matching funds. All project research and resulting data is attributable solely to The DuPont Merck Pharmaceutical Company.

Other participants include the New Jersey Board of Public Utilities, Division of Energy Planning & Conservation, the New Jersey Department of Environmental Protection's Office of Pollution Prevention, and the New Jersey Institute of Technology's Technical Assistance Program for Industrial Pollution Prevention (NIJAP), whose staff organized these events.

THE ULTRASONIC TECHNOLOGY INNOVATION...



In the past the uni-directional nature of the sound waves has limited ultrasonic cleaning applications to items which could be placed in a bath, such as glassware in a laboratory. The development of tubular resonators which can be inserted in a process vessel so that the multi-directional ultrasonic waves can be generated represents a simple, but significant advance. Proper placement of 1-3 tubular resonators, inserted at appropriate angles leads to propagation of sound waves which completely clean the inside of a reactor, tank, or other process vessel. The basic device consists of:

- a transducer connected to a tubular resonator; and
- a microprocessor controlled generator connected by a cable to the transducer.

The ultrasonic transducer, which provides longitudinal oscillations, is connected to a tubular resonator immersed in the vessel to be cleaned. Longitudinal waves cause expansion variations which radiate into the liquid via the surface of the resonator tube. This results in multidirectional ultrasonic waves that propagate through the water filled tank. Two physical phenomena are involved that result in cleaning:

- *Cavitation* - Microscopic bubbles formed by the ultrasonic waves implode against the wall, resulting in "scrubbing" action.
- *Microstreaming* - Waves against the wall induce high and low levels of pressure, resulting in a "wiping" action.

The number of tubular resonators and their length is determined primarily by the size and dimensions of the vessel to be cleaned. The angles at which multiple resonators are suspended in the reactor is a function of wavelength.

The most important parameters, such as operating frequency and power, are controlled by an ultrasonic generator microprocessor, independent of main power supply voltage variations and bath conditions, giving greater reliability. These new generators also operate with square wave pulse modulation, which ensures high constant cavitation during three-fourths of the sound effectiveness period. In contrast, conventional ultrasonic cleaning installations with sinusoidal modulation only deliver constant effectiveness during a fraction of the time.

THE ULTRASONIC CLEANING PROCESS...

The cleaning process is simple and straightforward. A reactor is filled with water and surfactants, which are added to decrease the surface tension. The resonators are installed through the tank opening and held in place with a specially designed

mounting bracket. Low voltage ultrasonic power is applied for two to four hours and then the water is drained from the vessel. In this project the primary cleaning procedure was followed by a single methanol distillation to satisfy current FDA requirements.

RESULTS OF THE DEMONSTRATION PROJECT...

Trials began in June, 1993. Reported results have consistently surpassed expectations. All trials have been successful. The DuPont Merck Pharmaceutical Company was also able to clean reactors soiled with carbon catalyst, a material which is very difficult to remove.

Cleaning quality with ultrasonics has been as good or better than results achieved with solvents. Cleaning time has been dramatically reduced. Purchase of methanol for

cleaning and disposing of the resulting hazardous waste has been greatly reduced. This process uses equipment developed and patented by the Swiss based company, Telsonic Ultrasonics.

The data presented in the table below was compiled by The DuPont Merck Pharmaceutical Company over a period during which eight cleaning cycles were performed. This type of data will be discussed at the seminar.

Reactor Size (gallons)	20	30	50	100	200	300
# of Tube Resonators	1	1	2	2	2	3
Cleaning Time (Hours)	2	3	3	4	4	4
Waste Reduction per Cleaning Cycle (lbs methanol)	263	395	658	1,315	2,631	3,946
\$ Savings/Cleaning	978	1,117	1,396	2,091	3,482	4,873
Payback (# of cleanings)	10	9	7	9	8	6

MAJOR SAVINGS...

- The new procedure requires only one distillation while the previous cleaning process required five.
- Solvent waste and purchases are reduced by 80%.
- Energy savings amount to approximately 10,000 BTUs per gallon of tank capacity.
- Surfactant cost is about \$0.30 per gallon of tank capacity compared to \$10.00 using solvent.
- Cleaning cycle reduced by 28 hours.
- Maintenance costs are negligible.

HEALTH & SAFETY BENEFITS...

- Vapor emissions on site are reduced.
- Safety of workers is enhanced.
- Health hazards are reduced.

Question: For the record, how many programs were completed or abandoned during FY 1992 to FY 1995? How many new programs were initiated?

Answer: An estimated 550 projects in Energy Efficiency programs were completed or reduced. An estimated 605 projects were initiated in the same period.

CLIMATE CHANGE ACTION PLAN

Question: In FY 1995, approximately \$41 million was provided to support the President's Climate Change Action Plan for Energy Conservation programs. In FY 1996, the request includes approximately \$78 million for the Climate Change Action Plan to expand ongoing efforts and initiate new programs. What are your priorities within the Climate Change Action Plan?

Answer: The highest priorities within the Climate Change Action Plan are: Rebuild America (\$19.8 million), Technology Introduction Partnerships (\$8 million), Energy Value Housing (including HERS/EEMs, \$3.5 million), state building standards (\$8.4 million), Motor Challenge and market transformation (\$8 million), NICE³ (\$5.5 million), Climate Challenge (\$2.0 million), Climate Wise (\$5 million) and Integrated Resource Planning (\$5 million).

Question: What is the priority for Climate Change Action Plan programs compared to other programs funded through the Energy Conservation program?

Answer: As a whole, the Energy Partnerships for a Strong Economy Programs are among our highest priorities - together with the Partnership for a New Generation Vehicle (PNGV), Industries of the Future, Low Income Weatherization and the Federal Energy Management Program.

Question: If funding for Energy Conservation is significantly reduced, to what extent would other programs be reduced in order to fund Climate Change Action Plan initiatives?

Answer: If funding is significantly reduced, some reductions in lower priority Climate Change programs will be made, but substantial cutbacks will also be made in other areas to maintain the high priority CAP. programs.

At flat FY 1995 funding levels, most of the new buildings initiatives would not be funded. However, the DOE/HUD initiative to retrofit public housing with energy efficient technology would be maintained, albeit at a somewhat lower level. This is because of the potential of this initiative to leverage enormous public and private funds and achieve huge results in terms of both environmental benefits and direct savings to the taxpayer of facility operating costs. In addition, most of the increases in selected programs planned for FY 1996 would be trimmed back, although some increases in high priority programs such as Rebuild America, Motor Challenge and the Affordable Housing Partnership would be maintained by funding cuts outside of the Energy Partnerships for a Strong Economy programs.

Question: What has been accomplished thus far with the funding provided in FY 1995?

Answer: The table below provides a summary of what has been accomplished for each action. We are off to a fast start. We have done an excellent job of outreach and have recruited many partners in private industry and State and local governments who have committed to investing in

energy conservation technologies. We have moved procurements out the door in record time. We have set up a customer service center that provides information on these and other energy efficiency and renewable energy programs simply by calling 1-800-363-3732. Finally, we have mobilized thousands of people to take action to invest in more efficient industrial motors, install energy efficient equipment, consider building retrofits and take other action that will produce measurable energy savings and economic benefits starting in 1995 and growing in subsequent years.

FY 1995 STATUS OF DOE CLIMATE CHANGE ACTION PLAN ACTIONS
(Energy Efficiency only)

ENERGY PARTNERSHIP (CCAP) ACTION (except where noted)	RECENT ACCOMPLISHMENTS
#1 Rebuild America: Commercial and Multifamily building retrofits through regional and community partnerships	1,100 cities challenged to participate through alliance with U.S. Conference of Mayors. More than 450 consortia to submit proposals for financial partnerships
#3 State Efficiency Revolving Funds	Not funded.
#4/6 Partnerships for Technology Introduction: Manufacturer/utility partnerships to develop and buy super efficient equipment	Cooperative agreement signed with Consortium for Energy Efficiency; Program initiated with National Association of Energy Service Companies; Achieved sales of high efficiency manufactured housing equipment to end-users. \$40 million investment in efficient best technology available refrigerators
#5 Building Operator Training	Not funded in FY 1995.
#7 Enhanced Appliance Standards: Aggressive implementation of standards	Final eight product rule issued; streamlined regulatory process in place
#8/11 Affordable Homes Program: Home energy rating systems, energy efficient financing, builder assistance & recognition provided	Six HERS pilot states; Active partnership with financial and real estate industries; Partnerships formed with HUD, Fannie Mae, and Habitat for Humanity
#9 Cool Communities: Consortia to develop/label cool materials; community partnerships to implement community plans	Support seven designated Cool Communities; More than 50 cities, communities, and federal facilities have expressed interest; roofing and paving collaborative formed
#10 Building Standards: Technical assistance and grants to accelerate state building code upgrades	Solicitations out to award financial assistance to states for exemplary programs in building code compliance, developmental programs, and progressive building code compliance programs
#12/13 Motor Challenge: Increase the market penetration of efficient motor-driven systems through the replication of Showcase Demonstrations, commitments by Excellence Partners: technical assistance, user education, and market transformation strategies	350 Partners signed up; 19 showcase demonstrations selected; Information Clearinghouse Technical Assistance Hotline receives nearly 300 calls per month
#14 Accelerate Efficient Industrial Process Technologies	Not funded.

#15 Expand Energy Analysis and Diagnostic Centers: Energy audits to small and mid-size industries

To date, 5040 energy assessments and 60 industrial assessments completed; 1000 engineers trained

#16 NICE³- National Industrial Competitiveness through Energy, Environment, and Economics

In FY 95, received 164 proposals requesting \$47 million in federal funds with an average cost share of \$5.20 per federal dollar; \$60.5 million/year in economic savings is current value of 25 active projects

#25 Commercialize High Efficiency Gas Technologies (Fossil Energy)

Not funded in FY 1995.

#27 Promote Integrated Resource Planning: Expand technical assistance and outreach to state assistance and outreach to state regulatory bodies

Solicitations for educational vouchers; National design workshop attracted more than 100 participants

#36 Coalbed Methane Utilization: Reduce emissions of methane from coal mines while providing the coal industry with a marketable new energy product (Fossil Energy)

Released a Program Research and Development Action solicitation for 50/50 cost shared demonstrations

Climate Challenge: Joint DOE/Electric Utility Industry program that promotes voluntary efforts to reduce, avoid, or sequester greenhouse gas emissions

104 written agreements representing nearly 500 of 766 interested utilities joined resulting in a combined commitment to reduce, avoid, or sequester 45 million metric tonnes of carbon equivalent; Options Workbook released; Nine industry initiatives attracted more than 160 utility investors and affiliates

Climate Wise: Partnership program between DOE and EPA. is establishing voluntary public/private partnerships with industry to achieve significant bottom-line improvements in industries resulting from energy efficiency and pollution prevention projects.

Ten partners have pledged to reduce emissions equivalent to 20 million metric tonnes of carbon; 7 State pilots established to sign up hundreds of companies; partnerships established with Small Business Administration to provide private sector financing to industry with savings from efficiency projects

Question: How many new Climate Change Action Plan programs are requested in FY 1996? How many of these programs were requested but not funded in FY 1995?

Answer: Modest funding is being sought for five new climate change programs in the buildings area - all of which seek to accelerate the use of energy efficiency technologies in partnership with industry, states and localities. These include the \$5 million DOE/HUD initiative to provide assistance to HUD operators and contractors to install energy efficiency equipment in public housing facilities - thereby cutting operating costs and returning money to the Treasury. In addition, four small partnerships with industry are proposed to accelerate the development and use of efficiency technologies and practices: a superwindows collaborative, design fee reform for commercial buildings, an advanced lighting collaborative and a program to work with the SBA to make capital available for efficiency improvements in small companies. In addition, we have requested \$4.7 million for two programs not funded last year. One for \$2.5 million is a nationwide efficiency equipment operators training program. Much of the savings expected from efficiency equipment is not realized because building operators are not sufficiently trained in their use. Through this program we will develop materials and design course work to "train the trainers." This will involve heavy participation from the States and unions. All private and States parties

maintain that there is an invaluable federal role here because of the need for standardized, high-quality training and the large potential payoffs. The other for \$2.2 million is the Cool Communities Program. That provides research and labeling of high reflectivity roofing materials and coatings, technical assistance to communities on the use of these products and working with manufacturers and distributors collaboratively to produce and make available these products.

PARTNERSHIP FOR A NEW GENERATION OF VEHICLES

Question: In February 1993, the President first announced the "Clean Car Initiative," and then in September 1993, the President formally introduced the "Partnership for a New Generation of Vehicles" (PNGV). Due to delays in identifying programs to be part of the initiative, the FY 1996 budget request is the first request that includes funding for the entire initiative. In FY 1996, the Energy Conservation portion of the program is approximately \$176 million, which is an increase of approximately \$63 million, or about 56 percent above the current level of approximately \$113 million in FY 1995. How much of the growth in FY 1996 is the result of new program starts?

Answer: Although PNGV is a recent initiative, beginning in September 1993, the DOE programs included in PNGV did not begin with the Partnership and actually predate its beginning by many years. These programs respond to mandates in legislation and have their own foundations in laws such as the Electric and Hybrid Vehicle Research, Development, and Demonstration Act (P.L. 94-413), the Energy Policy Act (P.L. 102-486), the Automotive Propulsion Research and Development Act (P.L. 95-238), and Clean Air Act Amendments. PNGV is a vehicle by which these programs/activities can be focused, accelerated, and integrated in concert with industry.

The PNGV funding within Energy Conservation's FY 1996 Congressional Budget Request increases by approximately \$63 million over the FY 1995 appropriations. In the FY 1996 PNGV budget request, approximately \$129 million is to continue and expand existing PNGV projects, while approximately \$47 million is required to initiate projects or contracts within existing program areas, such as lightweight materials, battery development, fuel cells, hybrid systems, etc. The increased funding is requested to maintain schedules and contain risks within acceptable levels as projects progress into the hardware development phase. This funding is requested to achieve the PNGV goals within the time frame established, and to bring the various technologies to the maturity level where industry can make quality decisions when taking these vehicle technologies to the marketplace.

Question: The three goals of the PNGV program are: (1) developing advanced manufacturing techniques; (2) near-term improvements in vehicle efficiency, safety, and emissions; and (3) enabling the development of passenger vehicles with triple the fuel economy of current vehicles. What was the basis for developing these three specific goals?

Answer: The goals of the PNGV were arrived at after extensive negotiation between President Clinton, Vice President Gore, and the corporate executive officers of Chrysler, Ford, and General Motors. The results of these discussions were formalized by the signing of the Partnership for a New Generation of Vehicles Declaration of Intent on September 29, 1993. The three goals for the initiative focus on manufacturing technology improvements, near-term improvements in vehicle technology, and triple-efficiency prototype vehicles.

Goal 1 emphasizes advanced manufacturing technologies, which play an essential role in the deployment of technology advances. Manufacturing is the foundation of the U.S. economy, but our relative performance in the global marketplace has deteriorated in recent decades. New manufacturing technologies and approaches can lead to dramatic improvement in product quality, cost, and time-to-market. Goals 2 and 3 are directed at the production of improved conventional and advanced vehicles with up to 80 miles per gallon. The focus of Goal 2 is on near-term technology improvements, particularly in automobile efficiency, safety, and emissions. Progress in pursuit of this goal (including improvements in controls, catalysts, combustion modeling and diagnostics, affordable lightweight materials, vehicle materials recycling, sensors, airbags, tires, and braking systems) is essential for the achievement of Goal 3. The objective of Goal 3 is to "develop a vehicle with up to three times the fuel efficiency of today's cars while maintaining or improving

safety, performance, and price." Achieving this objective would mean substantially lower emissions and reduced dependency on foreign oil.

Question: What was the basis for tripling the fuel economy of current vehicles?

Answer: At the start of the initiative, a technology tradeoff analysis was conducted for light duty vehicles. Based on current vehicle fuel economy of 27 miles per gallon (mpg) for a mid-sized family sedan, this analysis provided a basis for tripling the fuel economy. The analysis pointed to several parallel paths to achieve triple fuel economy. These pathways include: energy conversion devices with minimum efficiency of 40 percent, 20 percent reduction in aero dynamic and rolling resistance, 40 percent weight reduction, 70 percent regenerative braking, and 40 percent reduction in accessory load.

Question: The PNGV program has been characterized by some as "corporate welfare" for the "Big 3" American automakers. How do you respond to that allegation?

Answer: Contrary to characterizations, the PNGV initiative is not a "corporate welfare" program for the "Big 3" automakers. The reality is that the government has developed partnerships with the major automakers and the partnership is paying other entities to conduct technology research and development. Approximately 83 percent of DOE's FY 1996 PNGV budget request either passes on from the "Big 3" to smaller companies and suppliers through subcontracts, directly supports smaller companies, or supports activities at the national laboratories and universities. Thus far, there are more than 100 suppliers involved in this initiative. The PNGV initiative is an effective, government/industry relationship that supports areas of mutual long-term interests.

Question: How much of the funding provided for the PNGV initiative actually goes to the "Big 3" automakers?

Answer: As stated previously, approximately 83 percent of the funding supports PNGV activities with small companies, suppliers, universities and the national laboratories. The remaining 17 percent will fund PNGV-related activities of the "Big 3" automakers.

In particular, \$20 million of the FY 1995 hybrid program resources are being used by lower tier, independent subcontractors for component development and \$4.5 million by DOE's national laboratories. Approximately 65 percent of the contracts with the major automakers for fuel cell development are funding subcontractor research and development.

Furthermore, the Partnership agreement of September 1993 stated that the government and industry shares will balance out close to 50/50 over the course of the ten-year technology development and validation phase of PNGV.

Question: To what extent are the efforts of foreign competitors to develop advanced transportation technologies supported by the governments of those competitors?

Answer: PNGV technologies are being developed globally with the aid of substantial, long-term government funding. Similar technology portfolios are being developed and a similar fuel efficiency target is being pursued in Europe. Asia is not as united as Europe and Japan is the most active. Though the Japanese programs did not result from a publicly stated target, the same technologies are being pursued. Electric and hybrid vehicles are recognized by the automotive industry and supportive government agencies as an area of global competition, with technology leadership, future market share and high-end engineering jobs considered at stake.

EUROPE: Responding to global support for automotive R&D, the European Union has formed and heavily funded EUCAR, with the objectives of enhancing competitiveness of the European auto industry and addressing environmental pressures. Formed in May of 1994 as a government/industry partnership, EUCAR's purpose is to "give the European auto industry one clear, strategic voice on all matters connected with automotive research and technology development (R&TD) and it will seek to build collaboration at all levels between Europe's automotive manufacturers while

maintaining their independence in the marketplace." EUCAR replaces the 14-year-old Joint Research Committee of the European Automotive Manufacturers, which was limited to sponsoring pre-competitive projects. The European Union plans to fund EUCAR for development of advanced vehicles, controls, and improved manufacturing efficiency.

Targeting a fuel consumption of 31/100km (approximately 80 mpg) for a "small/medium vehicle of the 2000s," planned expenditures for these advanced technologies (analogous to our PNGV program) are US\$2.3 billion for five years (1994-98) and are described as "supplementary collaborative activity in the face of competitive pressure." The technology development program includes advanced internal combustion engines (\$400 million), electric and hybrid propulsion (\$333 million), materials and related technologies (\$400 million), integrated vehicle technologies (\$866 million), and manufacturing technology and processes (\$333 million). Total program value for these activities will be twice the amount shown since the program is based on 50/50 cost share with industry. Additional EUCAR funding targets traffic control and management (\$640 million) and management and organization structures (\$266 million). Also, substantial support for associated infrastructure development is provided by other EUCAR programs (some pre-existing), as well as national initiatives which include extensive demonstration programs. The following summary gives more details on the EUCAR program and includes projects that are not directly comparable to PNGV goals.

Summary of European Council for Automotive R&D (EUCAR) Automotive Research and Technological Development Master Plan

- Three objectives in the program: enhance competitiveness of European automotive industry, address growing environmental pressures in transportation (and specifically automotive) areas, respond to international (U.S. and Japanese) support for automotive R&D.
- Three broad technological areas of focus: vehicles, vehicle manufacturing, vehicular operating environment (road networks, multi-modal transportation system). Specific technologies: integrated vehicle technologies (improved energy efficiency, environmental compatibility, integration into traffic systems); advanced internal combustion engines; materials and related technologies; technologies for control systems and traffic management (comparable to ITS); advanced electric and hybrid power trains; manufacturing and engineering; future management concepts.
- Electric vehicle/hybrid goals: reduce production costs, improve performance, durability and operational range of vehicles; overcome payload, space, safety and weight problems
- Specific objectives:

Batteries: short-term objectives (to be achieved by 1996): improve performance to 100 Wh/kg specific energy and 150 W/kg specific power; long-term objectives (to be achieved by 2000): 200 Wh/kg specific energy and 300 W/kg specific power with life cycle of 1500 at 100% DOD at cost of 100-150 ECU/kWh (\$130-200/kWh).

Fuel cells: low operating temperatures (below 120° C), with reduced starting time and faster maximum power availability and a maximum cost of 150 ECU/kW (\$200/kW).

- Total anticipated funding more than five years: ECU 2.43 billion (\$3.24 billion)

COMMENTS:

- Technical objectives are defined in broader target ranges, often stretching technology incrementally but not necessarily seeking dramatic breakthroughs comparable to PNGV goals (not consistent with an aggressive fuel consumption target).
- Existence of a 5-year program, supported by European Union parliamentary legislative actions, gives the program stability relative to the U.S. year-to-year Congressional funding.

Procurement process is expected to begin fall of 1995.

- Programs have been defined to a large degree in response to actions and initiatives taken in the U.S. European program is designed to prevent U.S. from achieving insurmountable technological leadership in the next decade.
- Good deal of overlap among proposed projects, as well as with other cooperative R&D programs in Europe (ESPRIT, others)
- EUCAR research programs far more extensive than hybrid vehicle R&D. Includes broad range of basic automotive technology development.

JAPAN: The Ministry of International Trade and Industry (MITI) supports many advanced technology development programs (analogous to PNGV) through the Agency for Industrial Science and Technology (AIST). Japan does not currently have a public program analogous to PNGV, but many of the automotive-related technologies are being developed as part of more comprehensive development programs for industry (such as those within the New Sunshine Program). These are typically 50/50 cost share, with commitments made for 5- to 10-year programs.

Japan is spending an estimated \$400-500 million/year (combined government and industry), on several long-standing programs involving basic and applied technologies, component development, vehicles, and infrastructure development. MITI-supported technology development programs include advanced internal combustion engines (gas turbine and natural gas) (\$49 million), hydrogen storage (\$11 million), battery (\$49 million), electric vehicle infrastructure (\$8 million), materials (\$20 million), and vehicle technology (\$5 million - Automotive Research Center only). Shared local and national government funds are utilized in infrastructure development and demonstration programs, such as the EcoStations.

FEDERAL FLEET ACQUISITIONS

Question: Over \$52 million has been appropriated for DOE to provide incremental costs associated with the acquisition of alternative fueled vehicles for the Federal fleet since FY 1990. What has been accomplished with the funding thus far?

Answer: For fiscal years 1990 to 1994, DOE funding for alternative fuel vehicle incremental costs totaled \$33 million. This includes \$8 million in fiscal years 1990 to 1992 provided to agencies for alternative fuel vehicles under the data collection program of the Alternative Motor Fuels Act of 1988, P.L. 100-494; \$7 million provided for incremental cost in FY 1993; and \$18 million provided for incremental cost in FY 1994. This funding has resulted in acquisition of about 17,000 alternative fuel vehicles for Federal agencies.

The FY 1995 appropriation of \$20 million would bring the total for the period 1990 to 1995 to \$53 million. However, the 1995 appropriations are the subject of a proposed rescission of \$10.0 million with final actions remaining uncertain at this time.

The program accomplishments are significant. The Department, in coordination with the auto companies, identified the need for and then funded the procurement of: the first methanol flexible-fuel vehicles in 1990; the first ethanol flexible-fuel vehicle in 1991; the first original equipment manufactured (OEM)-dedicated natural gas van from Chrysler in 1991; the first OEM-dedicated natural gas pickup truck from General Motors in 1992, the first ultra-low-emissions-certified vehicle from Chrysler in 1993; and the first OEM dual-fuel natural gas pickup truck from Ford in 1995. The Federal government's recognition and investment in state-of-the-art alternative fuel vehicles from domestic manufacturers is expected to continue with large purchases of natural gas, ethanol, and methanol vehicles in 1996. OEM propane vehicles should be available in 1996 for the first time and the Federal government will be one of the first and largest customers.

Question: How many vehicles by fuel type have been purchased to date?

Answer: The Department's appropriated funds, leveraged with funds from other agencies, resulted in the acquisition of about 17,000 alternative fuel vehicles for the Federal fleet by the end of 1994. Cost share provided by the Defense Department included approximately \$13 million in fiscal years 1993 to 1994. Cost share provided by the U.S. Postal Service is estimated to be about \$10 million in fiscal years 1993 to 1994.

As of April 1995, the distribution of alternative fuel vehicles (AFV) by fuel type is shown in the following table:

TABLE I
AFV DISTRIBUTION BY FUEL TYPE

FUEL TYPE	NO. OF VEHICLES
Compressed natural gas (CNG)	7,022
Methanol (M85)	9,291
Propane (LPG)	229
Ethanol (E85)	39
Electric vehicle (EV)	<u>30</u>
	16,811

Question: What infrastructure has been put in place during that period of time?

Answer: Rapid growth in alternative fuel refueling infrastructure has occurred since 1992, due in large part to the coordination of vehicle procurement with alternative fuels station construction and the obtaining of voluntary commitments from partners to buy alternative fuel vehicles and/or build stations. The natural gas industry has been especially aggressive in building stations. The total number of alternative fuel refueling stations in the United States is now approximately 5,000, up from less than 4,000 in 1992. The bulk of these is 3,000 propane (LPG) stations. During the same period, the number of LPG and CNG stations has increased by slightly over 300 each. The number of alcohol fuel, M85 and E85, stations has increased by approximately 100 combined, and the number of electric vehicle recharging stations has increased by nearly 100. This expansion of over 800 alternative fuel refueling stations has been achieved without use of Department of Energy funds for the construction of these stations.

Question: To date, how have these purchases assisted in the introduction of alternative fueled vehicles into the marketplace?

Answer: This funding has allowed the Department of Energy to establish a successful program for the acquisition of alternative fuel vehicles for the Federal fleet that has served as a market catalyst to spur the availability of alternative fuel vehicles across the country. The Federal program has complimented similar State programs in California, Texas, New York, Colorado, and others, and has encouraged a significant level of investment by the automakers, conversion companies, and component suppliers.

The Department's efforts have supported automaker investments by purchasing significant quantities of start-of-the-art alternative fuel vehicles. The Department has also supported the development of a high-technology conversion industry that specializes in adding alternative fuel components to gasoline vehicles. The Department's insistence on state-of-the-art components and strict emissions certification has accelerated industry trends to provide top-quality equipment. Now that same conversion industry is providing needed technology and experience to the expanding automaker programs.

An important contribution by the Federal program has been consistency and leadership on alternative fuels. Numerous reports have been published on alternative fuels and vehicles with specific references to the Federal Fleet Program, including reports by the General Accounting Office (1991, 1994), the Interagency Commission on Alternative Motor Fuels (1991, 1992), the Federal Fleet Conversion Task Force (1993), and the Energy Information Administration (1994).

These reports cite the important role of the Federal Fleet Program in advancing the alternative fuels industry. The First Interim Report of the Interagency Commission on Alternative Motor Fuels, published in 1991, stated that the Federal alternative fuel vehicle programs stimulated the initial production of light duty alternative fuel vehicles by the U.S. automakers. In reports by the General Accounting Office and the Energy Information Administration the Federal Fleet Program is mentioned as being responsible for the increase in the market penetration of alternative fuels.

Many of these reports also recommend that Federal support for alternative fuel vehicles should be during the early years of introduction into the marketplace, and should decline as the technologies mature. For example, early Federal support helped encourage automakers to introduce methanol vehicles, which were soon available at very low cost. The Department hopes to repeat that success with natural gas, ethanol, propane, and perhaps even electric vehicles.

Question: Are more alternative fueled vehicles being manufactured and purchased today than when the program was initiated?

Answer: The Department's efforts have contributed to a tremendous increase in the types and quantities of alternative fuel vehicles being manufactured, converted, and purchased. At the inception of the program, alternative fuel types were limited to aftermarket conversions to natural gas and propane. Today, vehicles are available from original equipment manufacturers (OEMs), such as Ford, General Motors, and Chrysler, in natural gas, propane, ethanol, and methanol. Many foreign manufacturers are also offering alternative fuel vehicles.

Availability will take another positive step in 1996. The following table summarizes the estimated availability of OEM alternative fuel vehicles in model year 1996. These are light duty vehicles only. Additional medium duty and heavy duty vehicles will be available. These estimates were provided by the General Services Administration (GSA), are based on information available early in calendar year 1995, and are subject to change. In addition to OEM vehicles, numerous companies will be providing conversions and qualified vehicle upfitting.

Table 2
Federal Fleet Program
Summary of AFV Availability in 1996

Company	Model	Fuel	Configuration	GSA No.
Ford	Taurus sedan	Ethanol (E85)	flexible-fuel	9C, 10B
	Taurus sedan	Methanol (E85)	flexible-fuel	9C, 10B
	Crown Victoria sedan	Natural gas	dedicated	11B
	1/2 Ton pickup 4X2	Natural gas	bi-fuel	41
	1/2 Ton pickup 4X4	Natural gas	bi-fuel	46
	3/4 Ton pickup 4X2	Natural gas	bi-fuel	42
	12 passenger van	Natural gas	bi-fuel	22
	15 passenger van	Natural gas	bi-fuel	24
	Cargo van (6400 GVW)	Natural gas	bi-fuel	32
	Cargo van (8500 GVW)	Natural gas	bi-fuel	34
	1/2 Ton pickup 4X2	Propane	bi-fuel	41
	3/4 Ton pickup 4X2	Propane	bi-fuel	42
Chrysler	Intrepid sedan	Methanol (M85)	flexible-fuel	9C, 10B
	Mini-van	Natural gas	dedicated	20
	8 passenger van	Natural gas	dedicated	21
	Cargo van	Natural gas	dedicated	32
	1/2 Ton pickup 4X2	Natural gas	dedicated	41
	3/4 Ton pickup 4X2	Natural gas	dedicated	42
	Compact pickup (Dakota)	Natural gas	dedicated	61

Question: Of the funding available for FY 1995, what types and number of vehicles are planned to be purchased?

Answer: The FY 1995 appropriation to the Department for alternative fuel vehicles was \$20 million. The Department intended to use these funds to provide funding to Federal agencies for the incremental costs of approximately 4,600 alternative fuel vehicles. Combined with purchases and conversions funded by Defense Department and the U.S. Postal Service, approximately 12,500 to 15,000 alternative fuel vehicles would have been added to the Federal fleet in 1995. However, the FY 1995 appropriations are the subject of a proposed rescission and the amount available to the Department is uncertain at this time.

The Department's plans for FY 1995 included significant numbers of natural gas and ethanol vehicles, with smaller numbers of methanol and propane vehicles. A small number of electric vehicles were to be purchased. When these plans were first established in late FY 1994, a variety of vehicles were expected to be available. However, in October of 1994, the OEMs bid a much smaller number of vehicles than anticipated. The Department has worked with the General Services

Administration to purchase 700 vehicles from the OEMs, including 250 ethanol sedans, 250 methanol sedans, and 200 natural gas pickup trucks. These vehicles were funded, however, out of prior year obligations held at GSA.

Because of the low availability of OEM vehicles, FY 1995 obligations to date cover principally natural gas vehicles that will be converted either directly by the U.S. Postal Service or by the other agencies through the National Renewable Energy Laboratory. Some propane conversions (about 100) and some electric vehicle demonstrations (about 30) will also be included. As of April 17, 1995, \$10 million in FY 1995 funds has been obligated for these projects.

Depending on rescission action, this could be the extent of Department projects in FY 1995. If additional funds continue to be available, they could be allocated in three ways: purchase additional alternative fuel vehicles, probably natural gas, in sufficient quantities to meet the Energy Policy Act statutory requirement of 10,000 vehicles; support additional electric vehicle demonstrations; or carried over into FY 1996. The amount allocated to each of these efforts is dependent on the rescission action.

Question: For FY 1995, how much funding was appropriated for DOD to purchase or convert vehicles for the Federal fleet?

Answer: In FY 1995, the Department of Defense (DOD) received \$12 million for natural gas vehicle and \$15 million for electric vehicle programs. The natural gas vehicle program was to include \$10 million for the purchase or conversion of DOD vehicles, and \$2 million for infrastructure development. It is estimated that between 2,000 and 2,500 natural gas vehicles will be purchased or converted by DOD with these FY 1995 funds.

The electric vehicle funding is being directed to a combined program of demonstration, data collection, and vehicle acquisition, and estimates of vehicle purchases are still uncertain at this time.

Question: The Subcommittee is aware that DOE has had problems with GSA's procurement process for acquiring alternative fueled vehicles, and that the problems with GSA are part of the reason that unobligated balances exist for the program. What steps has DOE taken to work with GSA to resolve these problems?

Answer: The Federal Fleet Program has been a success. Each year since 1993 the Federal agencies have met and exceeded the quantity of alternative fuel vehicles required by the Energy Policy Act. The U.S. Postal Service, the Defense Department, the General Services Administration (GSA), and many other agencies have all contributed to meeting these requirements.

Problems encountered by the program are those to be expected when attempting to introduce new technologies into the fleet operations of very large organizations. Several agencies, including GSA, have had some difficulties in modifying procedures, systems, and computer software developed originally to handle conventional vehicles exclusively. In addition, GSA has not implemented the authority provided in the Energy Policy Act that would average the costs of alternative fuel vehicles across the entire conventional fleet. Resolution of these issues would reduce the need for DOE to provide incremental funding to the agencies, and make it easier for the Department to provide that funding when needed.

Coordination of alternative fuel vehicle placement was also lacking in the early years of the program. With the establishment of the Clean Cities program in 1993, the Department has been working closely with GSA, the other agencies, and the alternative fuel suppliers to better coordinate placement of alternative fuel vehicles in communities that are ready and willing to receive them.

The Department has worked with GSA to encourage the automakers to produce additional alternative fuel vehicles. This coordinated effort has worked well in most cases. When automakers are not able to provide the types and quantities of alternative fuel vehicles needed by the Federal agencies, the Department has worked with the alternative fuel industry to help fill the gap. The U.S. Postal Service and the Defense Department have both been open to the use of conversions and

obtaining alternative fuel vehicles from small manufacturers. The GSA has been much more tentative about acquiring large numbers of vehicles from these sources. However, GSA has recently indicated a willingness to convert some vehicles and to issue a solicitation for large numbers of "upfitted" vehicles which provide full warranty, emissions certification, and crash testing.

Question: What further steps does DOE plan to take to resolve this problem?

Answer: These issues are currently being studied by DOE, GSA, and the Office of Management and Budget. In addition, DOE works closely with all the agencies in numerous interagency forums to address and resolve similar issues related to the alternative fuel program. In February, the Department established the Interagency Alternative Fuels Coordination Committee at the Assistant Secretary level to improve coordination efforts.

Question: If the problems with GSA are not resolved, what implications does this have for widespread acceptance of alternative fueled vehicles by agencies other than the U.S. Postal Service or the Department of Defense?

Answer: The Department has complete confidence that these issues can be resolved through interagency coordination and cooperation. Many of the problems are to be expected for programs that introduce new and different technologies into the agencies.

The Department is preparing new guidance, in coordination with the agencies, for implementation of the FY 1996 Energy Policy Act requirements. Unlike prior years when alternative fuel vehicle acquisition goals were Federal government wide, in 1996 each agency will be required to acquire 25 percent of all new vehicles as alternative fuel. The Department has already begun discussions with the agencies to identify plans and resolve potential barriers to meeting this requirement.

GSA plays an important role and is critical to the overall success of the program. However, most agencies have used alternative fuel vehicles during the past three years and it is expected that agency personnel will develop and implement plans to meet the requirements. As alternative fuel vehicles become more available, and costs continue to decline, the Department believes there will be widespread acceptance and use of alternative fuel vehicles.

WEATHERIZATION ASSISTANCE PROGRAM

Question: In FY 1996, a total of \$229,046,000 has been requested for the Weatherization Assistance Program, which represents an increase of approximately \$2.7 million, or about one percent over the current level. In FY 1995, Congress approved an increase of approximately \$20 million to facilitate the implementation of a new formula that would give greater consideration to the needs of warm-climate States. As a part of the rescission bill, the House proposed to rescind \$14.8 million and the Senate proposed to rescind \$10 million of the \$20 million increase provided in FY 1995. What is the status of the implementation of the new formula?

Answer: The Department published a Notice of Proposed Rulemaking (NPR) on January 23, 1995. The Department has held two public hearings and received written comments during the comment period which ended on March 9, 1995. The States voiced strong support for the proposed formula change. This new formula addresses equity without decreasing the funds for the cold-weather States while increasing the funding for warm-weather States. The interim final rule implementing the formula change was published in the Federal Register on June 5, 1995.

Question: What is the impact of the rescission bill on the implementation of the new formula?

Answer: The House and Senate Conference has agreed to a final rescission of \$11.5 million for the Weatherization Assistance Program. Grants to 19 States will be reduced below 1994 levels. Warm climate States will not achieve the level of equity in the formula proposed by the Department. For example, grant funding increases will be lower. Louisiana would only receive a \$535,000 increase instead of \$633,000; Florida would receive \$945,000 increase instead of \$1,045,000; and, Texas would receive \$1,701,000 increase instead of \$1,982,000. Other States with

major population changes will also see declines. For example, the State of Ohio would receive a \$354,000 increase instead of \$1,044,000. Additionally, over 6,000 low-income homes will not be weatherized and approximately 600 full-time jobs in Weatherization would be lost. The President has vetoed the rescission bill. However, we understand that a revised rescission bill may be submitted.

Question: The authorization for the Weatherization program expires at the end of FY 1995. The issue of the adoption of a new formula was a factor in the program not being reauthorized during the last Congress. What is the status of DOE's efforts to get the Weatherization program reauthorized?

Answer: Recently, the House Interior and Related Agencies Appropriations Subcommittee requested the Department of Energy's analysis of the reauthorization issue. The response, provided in a March 10, 1995, memorandum from the Department's General Counsel draws the distinction between a program authorization and the authorization to appropriate monies for program activities.

Within that context, the Department's basic position is that: (1) there exists a general authorization for these program activities in permanent law, i.e., there is no "sunset" provision and the program authorizations have not been repealed by law; (2) a statutory requirement for prior authorization is essentially a congressional mandate to itself; (3) in the absence of any specific restrictions in authorizing legislation, the appropriation itself carries its own authorization; and (4) absent an explicit "sunset" provision, the Congress intended the authorized program to continue pursuant to its statutory terms. In summary, the Department would argue that "The existence or absence of an overlapping annual authorization of appropriations does not vitiate the fundamental authorization."

HYBRID VEHICLE PROGRAM

Question: In FY 1996, \$52,575,000 has been requested to support the hybrid propulsion system development efforts. This represents an increase of approximately \$17.1 million, or about 48 percent. The FY 1995 funding level supports two industry teams, while the enhanced FY 1996 level supports an additional industry team. Why do you feel it is important to add an additional industry team at this point?

Answer: The successful development of a hybrid propulsion system is critical to the achievement of the 80 miles per gallon fuel economy goal established by the Partnership for a New Generation of Vehicles (PNGV). The addition of a third contract will allow more alternatives to be evaluated, and will enable all three major domestic automobile manufacturers to focus their resources on this important technology with some government support. A successful hybrid propulsion system will capture a large part of the vehicle market, achieving a major part of the DOE efficiency goals for the transportation sector. Timing the market entry of a new vehicle system, ahead of competitors, is critical to maintaining market share. Of the three U.S. manufacturers that are members of the PNGV, only one does not currently participate in the hybrid program. This manufacturer represents nearly fourteen percent of the domestic auto sales in a highly competitive market.

Question: Will the additional industry team be able to meet the goals scheduled for the program?

Answer: The goal of the program is to complete the development of a production feasible propulsion system by 1998. It is expected that the third team will be able to meet the objective approximately nine months behind the first two. This time slippage has been minimized due to a corporate strategy that efficiently integrated projects supported by the Advanced Research Projects Agency's (ARPA) Technology Reinvestment Program with its own. This has enabled it to complete some of the activities scheduled in phase I of the hybrid program; however, continued support for the ARPA programs is unlikely.

Question: If DOE received no more than the existing funding level, or if funding were reduced, would DOE still initiate funding for the additional industry team or, alternatively, would

DOE reduce funding for all three teams?

Answer: The initiation of a third hybrid development project depends exclusively on the addition of funds beyond the existing funding level. DOE will not jeopardize the 1998 objective by down sizing the two existing teams to add a third. However, the auto manufacturers and DOE are examining the sharing of hybrid vehicle technologies in order to reduce the costs of these contracts.

Question: What has been accomplished to date with the more than \$60 million in funding which has been provided to date?

Answer: Both General Motors and Ford have completed the first phase of the program which defined the concept of a hybrid propulsion system in great detail. Each concept is company specific and is guided by the performance objectives (two-times fuel economy and Environmental Protection Agency Tier II emission standards), as well as consumer values to ensure maximum penetration into the new car sales market. Phase II consists of detailed component design and fabrication. Development of systems management strategies will continue and will govern the integration of the components into the complete propulsion system. Packaging for compliance with an existing production vehicle chassis is a major focus and is consistent with the goal for initial volume production in the 2001 to 2003 time frame.

Question: Has the program been able to meet its scheduled goals to date?

Answer: The completion of phase I (12-18 months) was on schedule for both contractors. Phase II activities are beginning on time and the 1998 objective has not changed.

ELECTRIC VEHICLES

Question: The FY 1996 budget includes \$19,942,000 for the ongoing efforts with the U.S. Advanced Battery Consortium (USABC) to develop batteries for electric vehicles, and an additional \$9,650,000 to issue contracts for the development of high power energy storage devices for use in the hybrid vehicle program. In addition, \$2,500,000 is provided for electric vehicle commercialization efforts through the alternative fueled vehicle deployment program. Does the FY 1996 funding requested for ongoing battery development complete the original five-year agreement with the USABC?

Answer: The FY 1996 funding requested for ongoing battery development will fulfill the government's 50 percent cost-share obligation for the original five-year agreement with the USABC. By the end of fiscal year 1996, the mid-term batteries are expected to achieve all of the required goals with the exception of cost, which may take some additional development. At this point the mid-term batteries will be ready for pilot production and could be commercialized with some subsidy. However, the industry is requesting continued support over the next four years for the USABC to complete the development of the long-term batteries that are required for electric vehicles to be both performance and cost competitive in a free-market environment.

Question: Have the goals of the program been accomplished?

Answer: The original goals of the program were to bring the mid-term batteries to the point of pilot production by the end of phase I, and to demonstrate technical feasibility of the long-term battery candidates. These goals have been achieved, with the possible exception of the cost of the mid-term technologies. The cost issue is being addressed with an aggressive development program focused on reducing the high cost of materials. A joint venture has been formed between General Motors and the Ovonic Battery Company to commercialize the Ovonic nickel metal hydride mid-term technology. Lithium polymer cells, a long-term technology, have been delivered to the national laboratories for independent testing and demonstration of technical feasibility.

Question: What additional efforts are required by DOE to develop a battery that will meet the requirements for a commercially-viable electric vehicle?

Answer: The Consortium's position is that a battery meeting the long-term goals is needed to make electric vehicles commercially viable. The mid-term batteries will enable the commercialization process to begin; however, the vehicles will require some subsidy and will not be fully competitive with conventional gasoline-powered vehicles. To bring the long-term batteries to the point of pilot production, where industry can continue on their own, will require DOE support of the Consortium through the late 1990s.

Question: To date, what is the total funding spent by DOE to commercialize electric vehicles?

Answer: The funding for the DOE program to commercialize electric vehicles dates back to 1976 when the Electric and Hybrid Research, Development and Demonstration Act (Public Law 94-413) was passed. This legislation provided funds for research and development, and a large market demonstration program, including loan guarantees to small manufacturers. The following table provides an estimate of the funding from the various activities from program initiation:

Electric and Hybrid Vehicle Research, Development, and Demonstration

Market Demonstration Program	\$120 million (1976 - 1982)
Early Research and Development	\$90 million (1976 - 1985)
Test and Evaluation	\$45 million (1982 - 1995)
Recent Battery and Propulsion R&D	\$180 million (1985 - 1995)

The above table does not include funding for the development of fuel cell technologies for transportation, which began in the mid to late 1980s.

Question: What is the scope of the program envisioned for the development of high power energy storage devices?

Answer: The development of high power energy storage devices will emphasize the use of electrochemical technologies such as batteries and ultra capacitors. The performance requirements for hybrid vehicle energy storage systems are quite different from those used in electric vehicles. The major difference is in the power that must be provided per unit mass of the storage device. Since these requirements are beyond the state-of-the-art of current battery technology, development programs are being initiated through the U.S. Advanced Battery Consortium (USABC). The vehicle developers, in conjunction with the USABC and DOE, have developed the necessary specifications for the high power energy storage systems and the USABC has requested proposals from the battery industry. With the projected resources available, the Consortium plans to sponsor one or two development programs on high power energy storage.

Question: What level of cost-sharing is industry expected to provide for the program to develop high power energy storage devices?

Answer: The industry is expected to provide 50 percent cost sharing on this development program. This is the same cost sharing that industry is currently providing through the USABC for the development of electric vehicle batteries.

ALTERNATIVE FUELED VEHICLES

Question: The FY 1996 budget request includes \$55,578,000 for alternative fuels utilization, including \$20 million for acquisition of vehicles for the Federal fleet. Please provide by fuel type the funding requested for FY 1996.

Answer: There are any number of caveats and qualifications which might be presented, since many of our program elements involve two or more of the fuels. A reasonable estimate of FY 1996 funding allocations would be:

Table 3
Funding by Fuel Type
Percent of FY 1996 Request

Fuel	R&D	Fleet Test	
		Demonstrations	Deployment
CNG	50	50	70
LNG	10	5	0
LPG	5	2	5
Methanol	5	2	5
Ethanol	20	15	20
Biodiesel	<u>10</u>	<u>3</u>	<u>0</u>
Total	100	100	100

Fluctuations in estimates will likely be attributable to original equipment manufacturer (OEM) response to GSA solicitations (proportion of CNG to alcohol vehicles and the incremental costs), as well as variations in their delivery schedules. The above table reflects the anticipated efforts by fuel based on announced commitments by General Motors, Ford, and Chrysler on alternative fuel vehicle production plans.

Question: What is the status of commercial production of alternative fueled vehicles by fuel type?

Answer: The current production of alternative fuel vehicles by domestic OEMs is larger than ever. In model year 1995, Ford announced a new and innovative program based on qualified vehicle modifiers that will make numerous Ford products available in natural gas and propane configurations. In model year 1996, Ford and Chrysler are expected to make over nineteen different model and fuel configurations available (see Table 2 from a previous).

A most encouraging announcement has been made by General Motors about the future availability of alternative fuel vehicles. In a press release dated May 11, 1995, General Motors announced that, starting in model year 1997, all S-10 and Sonoma pickup trucks will be ethanol flexible-fuel vehicles. This capability will be a standard feature, not an option, thus there will be no incremental cost difference. If past patterns continue, over 100,000 of these pickups will be manufactured and built in model year 1997.

These plans and announcements by the major automakers, added to the continuing strength of a high-technology conversion industry, mean that more alternative fuel vehicles are available today than ever before. As evidenced by the General Motors' announcement, costs should come down with volume production. Still, much progress needs to be made in establishing dealer familiarity, training of technicians, and establishing fuel and fueling equipment standards. In addition, numerous emissions certification and regulatory issues will continue to require significant investment by the Federal government and industry. The Department will continue to play a major role in these efforts.

Question: By fuel type, how much of the funding supports research and development efforts to overcome technical barriers to widespread acceptance of alternative fueled vehicles?

Answer: Research and development efforts toward eliminating technical barriers (e.g., range, cost, fuel economy, emissions) are focused in the engine optimization and atmospheric reactions key activities. This encompasses work ranging from fundamental studies of fuel combustion to smog formation research to actual adaptation of near-future power plant and emissions control technology in prototype alternative fuel vehicle systems. These systems are optimized, i.e., maximum performance, minimum fuel consumption and emissions, and installed in contemporary vehicles for demonstration. Funding for activities in this area have been as follows:

Table 4
R&D FUNDING BY FUEL TYPE

<u>Fuel</u>	<u>% of FY 1995 R&D Budget</u>
CNG	42
LNG	6
LPG	9
Methanol	18
Ethanol	19
Biodiesel	6

Question: Currently, which is the more significant barrier to widespread acceptance of alternative fueled vehicles, infrastructure or technical barriers?

Answer: Both infrastructure and technical barriers must be overcome before alternative fuel vehicles will be accepted by the U.S. motoring public. OEM production alternative fuel vehicles, currently available, are much improved over 1990 and 1991 models, but there is still considerable room for improvement in fuel economy, range, and emissions. The DOE Alternative Fuel Utilization program addresses these research and development issues through its engine optimization and atmospheric reactions activities. Several key activities, now in mid-phase, are aimed at dramatic improvements in alternative fuel vehicle efficiency (fuel economy equaling gasoline vehicles, and emissions much lower than petroleum fuels). The objectives for these parallel efforts, on ethanol, liquefied petroleum gas (LPG), compressed natural gas (CNG), and hydrogen-methane mixtures, are to develop prototype demonstration vehicles to illustrate and emphasize that these technology improvements can be done. The Department works closely with the OEMs to ensure adoption of these new technologies. Specifically, in 1995 vehicle prototypes are available for CNG, LPG, and ethanol which will easily meet ultra-low emissions vehicle standards with excellent fuel economy.

Infrastructure barriers are slowly but surely being overcome through the Clean Cities program wherein key metropolitan areas formally commit to operation of alternative fuel vehicles by local fleets, refueled by local fuel providers. To date, 35 Clean Cities have been designated, comprising more than 1,000 individual "stakeholders" (fleet operators, fuel suppliers, local government, etc.) who have developed well-defined schedules for alternative fuel vehicle acquisition and refueling infrastructure in each city. Beyond this, a "Clean Corridors" structure is already emerging which links Clean City commerce along major interstate arteries.

The twin efforts of developing cleaner, more economic alternative fuel vehicle technology and scheduled introduction of this technology into specific fleets refueled at designated refueling points are well underway. They are inseparable; both are critical to widespread public acceptance of alternative fuel vehicles. The public will not, and should not have to, accept inefficient and inconvenient vehicles. Our program is based upon that precept.

FUEL CELLS

Question: In FY 1996, \$42,228,000 is requested for fuel cell development for transportation applications, which represents an increase of approximately \$19.2 million, or about 84 percent, above the FY 1995 level of \$22,983,000. The funding is requested as part of the "Partnership for a New Generation of Vehicles" initiative. How much of the increase for FY 1996 is the result of funding multiple teams to develop the same technology?

Answer: The increase in funding for FY 1996 is not the result of funding multiple teams to develop the same technology, but the result of programs moving from the less costly design study phase into hardware development. The fuel cell program for light duty vehicles is being executed through industry teams lead by automotive manufacturers and fuel cell developers. Although each of the "Big Three" U.S. automakers are pursuing the proton exchange membrane (PEM) fuel cell

system, the cost-shared programs involve different technical approaches. The approach for each team is described below:

General Motors: This program focuses on the development of a PEM fuel cell for light duty vehicles using onboard storage of methanol fuel, as opposed to onboard hydrogen storage. Using methanol as a fuel allows for ease of refueling and fits an existing infrastructure based on liquid fuels. This approach requires that the fuel cell be designed for maximum performance using a reformat that contains hydrogen, carbon dioxide (CO₂), and carbon monoxide (CO). The CO must be cleaned in the fuel processor before it enters the fuel cell or it will degrade the fuel cell's performance. The fuel cell stack is unique because it requires the use of different catalysts, bipolar plate flow field designs, humidification, and system control schemes that are not applicable to fuel cells that operate on stored hydrogen as in the other two programs.

Chrysler: This program focuses on PEM fuel cells that operate from stored hydrogen gas. The approach being used by Chrysler is manufacturing-driven and uses a proprietary in-house fuel cell stack design that has a major goal of meeting a manufacturing cost of \$30/kW. The term "design-to-cost" is a way of describing this design approach. Designs are not approved unless they are shown to meet the cost goal. Tradeoffs of performance versus cost are made in selecting the optimum design. The design of the stack is different from the General Motors' stack, discussed above, because the stack operates on compressed hydrogen. The fuel system in this program is 3,000 pounds/square inch hydrogen gas stored in lightweight pressure vessels.

Ford: This program focuses on a PEM fuel cell using onboard storage of hydrogen also, but no in-house fuel cell technology is being developed by Ford. Rather, the Ford program has subcontracts with five U.S. fuel cell developers to provide a fuel cell stack that meets the performance specifications set by Ford. The five developers are all using different design approaches to meet the specifications and each will be evaluated after delivery of a 10-kW stack. Only one developer will be selected to proceed to a 50-kW fuel cell system design. Also, hydrogen production, transport, storage, and safety, both off-board and onboard a vehicle are a more significant element of this program than in the Chrysler program.

Question: Given the current budget constraints, is it cost-effective to support multiple industry teams to develop the same technology?

Answer: Competition, in the absence of duplication, can be very cost effective because it allows more to be done with less. The research teams are pursuing different approaches, so they are not really developing "the same technology." At this point in time neither we nor the auto industry can tell which approach will eventually work better. In addition, we are encouraging cooperation and information sharing among the program's participants, so that if industry believes it has found a clear "winner" in a given technology, all can take advantage of that technology without further duplication.

Question: Is the FY 1996 funding level the expected ongoing level of the program, or do the program goals of PNGV advocate further significant increases in this program?

Answer: The FY 1996 budget request represents the consensus of government and industry recommendations for a minimum ongoing funding level which would sustain the development of fuel cells to meet the PNGV goals; no further significant increase in the program above the requested level is anticipated in future years.

Question: What is the level of cost-sharing associated with the fuel cell development program?

Answer: Industry cost-sharing ranges from 20 percent to 50 percent for various fuel cell development projects. This level of cost sharing is considered to be commensurate with the long-term nature of the development and the relative level of technical risk involved.

Question: What are the risks associated with this program?

Answer: The program has a number of technical, financial, and exogenous risks. The technical issues include meeting challenging requirements for start-up time, power density, and load-following capability, as well as meeting acceptable cost targets through advancements in fuel cell materials and system components. Infrastructure for hydrogen, methanol, ethanol, and natural gas, or fuel processing technology for conventional transportation, must be attained. The ongoing program focuses on these technical hurdles that must be overcome for fuel cell technology to become widely utilized in the transportation sector.

The financial risk is that an adequate level of support may not be available to provide the critical mass needed to sustain a reasonable likelihood of success; the probability of success will be severely diminished with reduced funding. Because of the long-term nature of the development and its associated technical risks, industry alone cannot and will not provide the resources needed for research and development.

The exogenous risk, beyond the control of the Department, is that the technology may be developed first in Japan or Germany. If fuel cells are first successfully commercialized overseas, it will be very difficult for U.S. industry to successfully compete thereafter.

Question: When do you envision the development of commercially viable fuel cells for transportation?

Answer: For the light duty vehicle sector (automobiles, vans, light trucks), fuel cell technology is expected to be developed in a time scale that is consistent with the schedule of the Partnership for a New Generation of Vehicles, namely, a commercially viable concept car by 2000, leading to a mass-producible production prototype by 2004. For the heavy duty vehicle sector (urban transit buses, locomotives) which represents a much smaller market size, commercialization could begin earlier if adequate development funds were available. The requirements for heavy duty applications are less challenging than those for automotive applications.

Question: Do advances in the development of other fuel cells benefit the transportation program? How are these programs coordinated?

Answer: The Department expects some synergism among fuel cell technologies being developed for stationary and transportation applications. However, in addition to the complementary aspects of such efforts, there are unique features that have to be recognized in constructing an effective portfolio. For example, the proton-exchange-membrane (PEM) fuel cell technology being developed for transportation applications emphasizes compactness, rapid start-up, and use of transportation fuels; it is expected to have considerable differences from stationary system applications which require high efficiency and operate on natural gas. The Department takes these important characteristics into account in its process for selecting technology development candidates.

Within DOE, fuel cell development is also being conducted in the Fossil Energy (FE) office for stationary power generation; the DOE/FE effort focuses mainly on the molten carbonate fuel cell and solid oxide fuel cell technology, whereas the transportation fuel cell program is developing PEM technology for its more suitable size, power density, and start-up characteristics. The programs keep abreast of research developments through regular fuel cell conferences and meetings.

The Department has signed Memoranda of Agreement with the Department of Defense and with the National Aeronautics and Space Administration to exchange information and coordinate programs on fuel cell research. The Department actively participates in the Interagency Advanced Power Group and in the Fuel Cell Coordinating Group to further coordinate activities among Federal agencies and non-Federal organizations (e.g., the Electric Power Research Institute, Gas Research Institute). Internationally, the Department is a participant on the International Energy Agency's Fuel Cell Annex.

ENVIRONMENTAL TECHNOLOGY PARTNERSHIPS

Question: In FY 1996, \$15,720,000 is requested to initiate a program coordinated with the Office of Energy Research, the Fossil Energy program, and the Policy Office within DOE, as well as the Environmental Protection Agency. Besides the Energy Conservation program, has any other program requested funding for these partnerships?

Answer: The Office of Energy Research is requesting \$31,700,000 in the Energy Supply Research and Development appropriation.

Question: What specific activities will be funded in support of these partnerships, and what are the associated funding levels for each activity?

Answer: Nearly all of the funding will be used to support research and development proposals which result from the Visions of the Future process to establish high priority work which is needed for the seven key process industries to achieve a future state of higher efficiency, better environmental performance, and improved global competitiveness. Of the requested amount of \$15.72 million, we plan to fund projects from a competitive solicitation which benefit entire industrial sectors, such as glass, steel, foundries, etc.

Question: How will the cooperative solicitation be made?

Answer: A cooperative solicitation will be executed much in the way we have on previous solicitations. In fact, we have initiated some work with the Office of Energy Research to begin preparation of a single solicitation for our joint efforts on the Environmental Technology Partnerships. One of DOE's Operations Offices will be the lead on executing the procurement. The solicitation will be advertised widely in the Commerce Business Daily, and through our contacts with the various industries. Upon receipt of the proposals, we will evaluate them by a team of experts for their applicability to the Visions of the industries, among other items. Winning proposals will then be formalized through Cooperative Agreements.

Question: Were any lower priority programs reduced or eliminated in order to fund this initiative?

Answer: Yes. By its very nature, the process of preparing a budget involves a number of "puts and takes" of competing programs against the overall proposed level of funding. During the development of the FY 1996 budget request, we felt that the Environmental Technology Partnerships was a high priority item, while some other programs were lower. A review of programs in the budget which show a decline from FY 1995 to FY 1996 would be deceiving, however, because some reductions are for programmatic reasons and don't reflect a lower priority. For example, the Industrial Combustion Equipment program drops from \$1.8 million in FY 1995 to \$0.4 million in FY 1996 due to a delay in awarding cooperative agreements in the Very Low Emissions solicitation, which allows FY 1995 funding to carry the projects through FY 1996. The reduction, along with others, allows for increases in other programs, such as the Environmental Technology Partnerships. We anticipate fully funding awards so that no mortgages will be entailed.

INTERNATIONAL MARKET DEVELOPMENT

Question: In FY 1996, \$5,134,000 is requested to support International Market Development. This represents an increase of approximately \$2.2 million or about 77 percent, above the current FY 1995 level. When compared with the FY 1994 level, the FY 1996 request represents an increase of approximately \$4.4 million, or about 600 percent. Why such a significant growth in international activities?

Answer: While there is an appearance of large increase in funding for the International Market Development program area between FY 1994 and FY 1996, this should not be misconstrued as representing solely growth in the programs. In FY 1994, funds had been requested under this line item for initial start-up expenses of the Committee on Energy Efficiency Commerce and Trade

(COEECT). The establishment of COEECT has provided us with strategic planning capabilities which have allowed us to coordinate and centralize the management of various international programs. Our budget requests in FY 1995 were not met which necessitated co-locating programs to achieve programmatic efficiencies. The FY 1996 request seeks funding to optimize program delivery taking into account the efficiencies that have already been implemented through the programs' merger. Specifically, funding for the Asia Pacific Economic Cooperation (APEC), the Center for the Analysis and Dissemination of Demonstrated Energy Technologies (CADET), the Greenhouse Gas Technology Information Exchange (GREENTIE) and the Energy Efficiency Centers were transferred to the International Market Development budget.

The FY 1996 request includes modest increases for each of these important programs. COEECT will expand to meet industries' demand for assistance and will continue to develop export strategies and help U.S. firms capitalize on unique opportunities that currently exist for their technologies overseas. Funding for the Energy Efficiency Centers will ensure continued contractual access by U.S. firms for activities such as market analyses, business development assistance and development of training courses -- not core funding. APEC will continue to provide a conduit for project identification in the Asian markets, and CADET and GREENTIE will increase dissemination of information on the benefits of U.S. energy efficiency technologies and continue to provide energy decision makers with access to U.S. vendors. This combination of programs, conducted in close consultation with U.S. industries, is thought to be a very good investment for the taxpayer in making U.S. firms more competitive in the \$84 billion world market for energy efficiency products and services.

By increasing exports of U.S. energy efficient products and services, International Market Development programs create U.S. jobs, make businesses more competitive and reduce pollution from traditional energy sources. These activities also increase U.S. tax revenues from foreign sales. To name just one success story: SEVEN, the EE Center in the Czech Republic, assisted one U.S. firm, Energy Performance Services of Houston, Texas, in obtaining \$30 million worth of contracts for energy efficiency services. The U.S. tax revenue generated by these contracts alone is greater than \$1.5 million, the original government funding for all centers combined.

Question: How much of this funding supports the recent (and well-publicized) trips of the Secretary and other DOE staff to China and other international destinations?

Answer: No funding from the International Market Development program has been used to support any Secretarial mission.

Question: When the Secretary travels to promote agreements with foreign governments and businesses which support purchases of energy efficient products, what DOE staff accompanies her? What staff from the Office of Energy Efficiency and Renewable Energy accompanies the Secretary?

Answer: The composition of the staff which accompany the Secretary is determined by the nature of each trip. Staff from the following offices may include: the Assistant Secretary for Policy, the Assistant Secretary for Congressional and Intergovernmental Affairs, and various Program Offices, such as the Assistant Secretary for Energy Efficiency and Renewable Energy (ASEE) (Christine Ervin) or her immediate staff, the five Deputy Assistant Secretaries, and other program staff as needed on a case-by-case basis.

INTERNATIONAL TRAVEL

Question: What is the estimated cost of international travel for FY 1994 and FY 1995 for DOE in general, and specifically for the Energy Conservation program funded through the Interior bill? Please provide the dates for the trips, the DOE staff (including grade level), and the cost for each trip.

Answer: Information on DOE international travel for FY 1994 and 1995 is as follows.

FY 1994 DOE INTERNATIONAL TRAVEL

	<u>No. of Trips</u>	<u>Avg. Cost/Trip</u>	<u>Total Cost</u>
Energy and Water Development	4,535	\$3,844	\$25,118,976
<u>Interior and Related Agencies</u>			
Energy Efficiency & Renewable Energy	488	\$3,162	\$1,542,856
Energy Information Administration	46	\$2,053	\$94,443
Fossil Energy	231	\$2,463	\$569,034
Policy - Emergency Preparedness	13	\$3,116	\$40,513
Subtotal, Interior & Related Agencies	78	\$2,888	\$2,246,846
Total, International Travel	7,313	\$3,742	\$27,365,822

FY 1995 DOE INTERNATIONAL TRAVEL

	<u>No. of Trips</u>	<u>Avg. Cost/Trip</u>	<u>Total Cost</u>
Energy and Water Development	5,519	\$3,618	\$19,966,446
<u>Interior and Related Agencies</u>			
Energy Efficiency & Renewable Energy	447	\$4,157	\$1,858,012
Energy Information Administration	38	\$2,037	\$77,391
Fossil Energy	204	\$2,624	\$535,233
Policy - Emergency Preparedness	13	\$2,438	\$31,690
Subtotal, Interior & Related Agencies	702	\$3,565	\$2,502,326
Total, International Travel	6,221	\$3,612	\$22,468,772

Note: Based on DOE Order 1500.3 and Departmental procedures, the system that tracks the above information, excludes international travel for the Secretary, Under Secretary, and immediate staffs. This information system tracks employee and contractor travel by means of travel authorizations which reflect cost estimates and not actual charges. These cost estimates tend to be higher than actual costs.

The requested information regarding international travel for FY 1994 and FY 1995 including trip dates, name of traveler, and the cost for each trip funded by the Energy Conservation Appropriation are included in a list provided to the Subcommittee.

The grade level of the DOE travelers is primarily GS/GM-13 and above, since these staff are senior program managers. The exception is that the list is annotated at the end of each fiscal year to include international travel by senior researcher staff who are DOE Laboratory contractor employees. All of the travel is in support of Energy Conservation program goals and objectives.

BUILDING SECTOR

Question: According to the budget justifications (page 231), the "Building America" program is a highly leveraged program with only modest Federal support, in which industry consortia design and demonstrate ultra-high efficiency homes. What level of cost-sharing does the Federal government receive for this program? What is the Federal role for this program?

Answer: DOE investments will be leveraged over 2:1 over the life of the program. In FY 1996, based on the Congressional Budget Request, industry cost sharing is expected to average 4:1. Construction costs are not included in DOE funding. Continued participation of industry teams in the program is based on success in meeting program goals. Building America team members have committed more than \$30 million in direct cost participation over the next three years to do full

scale system engineering of housing technology innovations and construction of energy-efficient, affordable, environmentally benign, prototype houses leading to community scale developments. The DOE will provide technical assistance and act as a catalyst to bring further together the diverse technologies and views of the diverse participants.

Question: What is the priority for this type of program as compared with research and development activities when the Energy Conservation program overall is facing severe budget constraints?

Answer: The Building America program is a research, development and demonstration program with anticipated short term and long term results and benefits. It is unique in that it addresses the building and its components from an overall systems standpoint rather than concentrating on individual components. Because of its uniqueness and potential for stimulating major change, we consider it of high priority.

Question: The FY 1996 budget request for building equipment includes \$1,991,000 to initiate a program to develop and demonstrate small-scale building-integrated fuel cells. What is the current availability of such technology?

Answer: The first-generation Phosphoric Acid Fuel Cell (PAFC) is currently commercially available in the United States in units of 200Kw and are used solely as test units for the production of electricity. However, the cost of the fuel cell at \$3,000 per kilowatt makes it too expensive for most applications. As an example, for the PAFC to be used effectively in providing electrical and thermal loads for buildings, in a cogeneration capacity, the market clearing price of \$1,500 must be reached. The technology does not fully exist to integrate a fuel cell and a building. The Fuel Cell-Integration for Buildings program in a 50% cost shared effort, would assist users, developers and manufacturer of fuel cell technology to reduce the cost of production and deployment.

The Proton Exchange Membrane (PEM), the Molten Carbonate fuel cell (MCFC) and the Solid Oxide fuel cell (SOFC) are being developed for the transportation industry and large-scale power generation applications but are not yet commercially available.

Japan is aggressively developing fuel cells of the same technologies and the United States is their target market. It is important that the United States continue development of fuel cell to maintain technology leadership in the world.

Question: Is the program for which the funds are being requested any different that the programs for which funds were requested in past budget requests?

Answer: The program request of \$1,991,000, is for a program similar to that in previous years. However, as part of its planning for the program, DOE has held three industry workshops, completed an extensive collaborative study of building types and their electrical and thermal requirements and distributed a report on "Fuel Cells for Building Cogeneration Applications - Cost Performance Requirements and Markets". The 1996 proposed program reflects the results of this cooperative industry/government planning process. The improved understanding of building fuel cell integration issues and the growing interest in the building fuel cell applications has enabled the program to be better targeted with greater industry participation than in previous years. An example of the improved targeting is a new effort to develop uniform procedures for installation and safe operation of fuel cells in buildings.

Question: Why should the Congress fund this program this year when it has not in past years? What priority do you place on this program?

Answer: Government funding is needed for a Fuel Cell/Integration for Buildings (FCIB) program that will address applications unique to buildings that are not being addressed by other fuel cell programs in DOE. Industry cost share of 50% or more will provide adequate funding to mount a feasible program in fuel cell for building cogeneration technology. The building sector provides one of the largest markets for fuel cell application, and a successful program in the buildings area

will accelerate the market introduction of fuel cells. The FCIB will develop and maintain a centralized organization for a very fragmented gas, electric, and building industry and will provide a repository for information on buildings, fuel cells, and other needed technical information.

The Building Equipment Division held three workshops cosponsored by the fuel cell manufacturers, and the gas and electric industry to solicit assistance in defining a program that will address fuel cell technologies applicable to the building sector. A comprehensive study was conducted of the various building types, and their electrical and thermal characteristics. The workshops highlighted building types, such as hospitals, hotels, and service buildings that are best suited for fuel cell cogeneration applications. A comprehensive report was published and distributed. A Fuel Cell Energy Service Coalition (FCESC) funded by members of the gas and electric utilities was formed to provide program support in reviews, input, and direction. A high priority is placed on the program by the gas and electric industry.

RESIDENTIAL BUILDINGS

Question: As part of the Climate Change Action Plan, \$4,744,000 is included in the budget request to fund residential energy efficiency programs, which represents an increase of \$1.9 million above the FY 1995 level. In part, the program supports replication of regionally appropriate energy efficiency home building programs, enhances builder incentive programs, and acceleration of the adoption of new technologies. To what extent has the program been implemented with the \$2.8 million provided in FY 1995?

Answer: Approximately \$360,000 of the \$2.8 million provided in FY 1995 resulted in planning and program development for an NAHB Energy Value Home awards program. No training materials development, builder training or coordination with existing awards programs has yet taken place. The bulk of the FY 1995 funding supports research and development projects on industrialized housing and advanced building construction technology.

Question: What builder incentive programs does this part of the Climate Change Action Plan support? How do these incentive programs lead to the adoption of energy efficient technologies?

Answer: Most builders are small businesses and are not aware of many advanced technologies, are highly concerned over first costs, and hesitant to adopt new technologies. They listen to other builders, their competitors and their customers. Showcasing and recognition of these homes will demonstrate that such homes can be built for little or no increase in first cost. The builder training program initiative will stimulate more home builders to use advanced construction techniques resulting in spreading the construction of highly energy efficient homes as builders see the value and recognition of such homes.

Question: What are the specific activities funded by this program and what are the associated funding levels for each activity?

Answer: Specific activities include forming partnerships with the National Association of Home Builders (NAHB) and industry groups to develop, manage and implement the awards part of the initiative. Current planning levels for awards programs are \$500,000 for local and national awards. The balance of the funds of this increase, \$1,453,000, will be used for development and implementation of training programs to be conducted by home building industry stakeholders.

SUSTAINABLE BUILDINGS PROGRAM

Question: A new "sustainable buildings" program for commercial buildings is proposed to be funded in FY 1996 at a level of \$2,979,000. The program is to be "market-driven" and provides information resulting from research and development programs to assist in the construction or renovation of buildings. Currently, how do builders and developers get information from DOE's research and development programs?

Answer: Program information is provided to builders and developers through industry-established channels. These include industry-sponsored articles in magazines and the trade-press, workshops, and special programs at meetings/conferences, direct work with industry organizations in conducting research. Industry and public sector organizations such as the American Institute of Architects, National Association of Home Builders, the Passive Solar Industries Council, Solar Energy Industries Associations, and utility organizations work with the research team to package the information developed by program researchers in formats desired by their target audiences. They make it available to potential users through their respective existing mechanisms and communication channels. Further, representatives of these organizations are, and will continue to be, involved in the planning and implementation of the research programs in order to facilitate adoption of the resulting research and for the Department to better understand their information needs. The Sustainable Buildings Programs will use similar means, complemented by community-specific approaches, to provide additional information which may be required for local/regional partnerships to be successful, and to encourage replication of sustainable building programs across the country.

Question: Why does DOE need to spend additional funding to disseminate the results of its research and development programs?

Answer: The proposed Sustainable Buildings Program is designed to accelerate research on, and widespread construction and renovation of, buildings that use renewable and energy efficiency measures along with environmentally-sensitive materials/products, design, and construction practices. While a principal aim of the program is wide-scale replication of sustainable buildings, its thrust is research and development (R&D). It focuses on the integration of energy and environmental strategies. Therefore, funding for information-related activities is needed to (1) assist participating builders, developers and their partners build upon emerging know-how and enable them to meet the program's objectives, and (2) that needed for others to replicate the successes resulting from the proposed program. It is not the intent of the proposed Sustainable Buildings Program to primarily be a dissemination conduit for other R&D programs.

Question: What are the specific activities to be funded through this initiative and what are the associated funding levels?

Answer: The proposed Sustainable Buildings program is designed to leverage the momentum of existing local and regional economic development partnerships in differing climate zones to cost-share needed research and development and to encourage buildings that are more affordable to build, renovate and operate.

Local partners will identify the best mix of (1) energy efficiency, renewable energy and indoor air quality strategies, and (2) site waste stream management strategies to reduce construction wastes, recycle construction and renovation wastes, and on-site runoff. By using these waste streams for productive purposes, it is possible to reduce the energy demand required to make building materials, and to reduce the cost of waste disposal. Local initiatives may include research on new materials usage, thereby expanding the local economic base.

Specific activities will be based on local/regional requirements and the extent to which local initiatives allow the Department to advance, test and replicate the knowledge gained from its building research programs at a scale appropriate to facilitate adoption by industry. Primary activities are planned to include: (1) design assistance needed to advance technological know-how and adapt emerging practices to climate zones, (2) building and material performance monitoring, (3) research on new materials/products made from construction/renovation site wastes, (4) the expansion of existing design guidelines to incorporate new products/materials and waste management approaches, and (5) case studies, including performance information on the monitored buildings.

These will assist local/regional partnerships to become aware of the current knowledge base on renewable energy and energy efficiency building practices, recycled and recyclable wastes, construction value engineering, on-site waste management strategies and other waste minimization

approaches to help in the development of cost-effective energy/waste management strategies, and to encourage research on new, non-toxic building materials. Funds for the actual construction and renovation of buildings resulting from local/regional partnerships will be provided by local building owners and developers.

The estimated funding allocations for FY 1996 by activity are: (1) design assistance to advance technological know-how and adapt emerging practices, \$1,300,000; (2) standardization of performance monitoring requirements, \$250,000; (3) research on new materials/products made from site waste streams, \$1,200,000; (4) adaption of current knowledge for local/regional partnerships, \$229,000.

Question: What is the anticipated duration of the program?

Answer: The program is a five year effort expected to be completed in FY 2000.

ENERGY SERVICE COMPANIES FINANCIAL INITIATIVE

Question: The FY 1996 request includes \$993,000 for a financial initiative in support of energy service companies and the Small Business Administration, which will allow low interest loans to energy service companies. What is the expected level of loans to be provided by the Small Business Administration?

Answer: Allowing for time to plan the initiative and put it into place, the loans insured by the Small Business Administration (SBA) may not exceed \$1,000,000 - \$1,500,000 during the first year. The number of loans and the amount of funding associated with them during the pilot phase of this proposed program will need to be of a scale adequate to establish level of risk.

Question: What is DOE's role in the initiative and what will the \$993,000 provide?

Answer: The Department will be responsible for program planning, development of standard guidelines and procedures for evaluation of energy service company (ESCO) business/project financing requests, and developing procedures for establishing the effectiveness of various financial instruments in increasing the number of ESCO projects. The Department will provide technical information about the kinds of energy efficiency and renewable energy measures that should be eligible for the loans, and the basic contract requirements in terms of baseline performance and energy savings estimates. It will provide training of the lending institutions in applying these procedures.

Question: What are the specific activities to be funded and what are the associated funding levels?

Answer: The specific activities and associated funding are: (1) program planning and evaluation, \$143,000; (2) guidelines/procedures development, i.e., development of financial instrument concepts and guidelines for lending institutions and ESCOs, \$350,000; (3) identifying target markets including establishment of links with local lending institutions and awareness-related needs \$100,000; and (4) technical assistance and training in evaluating applications, selecting qualified contractors for independent project reviews and other aspects of energy use as it relates to the loan insurance process, \$400,000.

DOE-HUD INITIATIVE

Question: In FY 1995, DOE is expected to complete the results from the DOE-HUD initiative to demonstrate energy conservation techniques in HUD constructed housing. What conclusions are expected to be included in the evaluation of the program?

Answer: Conclusions are expected to confirm both: (a) the large potential for energy use and energy cost savings in HUD's public and assisted housing; and (b) a significant need for technical, financial and project management capabilities for energy efficiency among staff who manage and

operate such housing. The savings potential is in the range of \$300 million to \$400 million annually. These findings have also been confirmed in earlier analyses of HUD's public and assisted housing programs.

Question: In FY 1996, DOE has requested additional funds totaling close to \$5 million for an "affordable and efficient public and assisted housing" program as part of the Climate Change Action Plan activities. The program is expected to be a five-year program to upgrade the energy efficiency of up to 50 percent of HUD public and assisted housing to a level equivalent to the average U.S. residential building stock. Given the current budget climate, is it practical to initiate a five-year program between DOE and HUD?

Answer: Yes. The current budget climate does not alleviate the high impact of utility costs in public, Indian and assisted housing units. The Federal government provides financial assistance to subsidize utility bills for over four million low and moderate income families at an annual cost of about \$4.5 billion. The cost to States and local authorities is staggering. The major thrust of the DOE-HUD partnership is to make HUD-aided housing more affordable by reducing energy costs. Without technical and capital resources to reduce energy waste, low and moderate income families will continue to pay a significantly higher portion of their income for energy. Energy efficiency improvements are a direct way to reduce Federal and local outlays, reduce operating costs and provide affordable housing units. The partnership complements the Department of Housing and Urban Development by focusing on large scale delivery of energy efficiency for all public or assisted housing units within a community or region, and by leveraging public capital funds with investments from private energy performance contractors, utilities, local governments, and other sources.

Question: What are the respective roles and funding levels for DOE and HUD for the program?

Answer: DOE has proposed a FY 1996 budget of \$5 million to support the provision of training and technical assistance directed specifically toward managers of public and assisted housing. DOE's assistance will improve the abilities of those managers in characterizing energy use and costs, identifying savings options, selecting financing alternatives, and monitoring results. (Details of DOE's activities are described below.) HUD will strongly encourage their housing managers to participate in the program, and will provide information and clearinghouse assistance through the National Center for Appropriate Technology.

Capital improvements will be financed from a combination of: (a) HUD's existing modernization funds during normal rehabilitation of housing units; and (b) non-Federal funds available through private energy performance contractors, utility demand management programs, and other such sources. It is expected that at least 75% of capital investments will be financed through the latter non-Federal funding mechanisms.

Question: Given budget constraints, what happens to the program if HUD funding for the program is not provided?

Answer: The program does not request that HUD earmark capital funds specifically for energy efficiency improvements, nor does it include any request for additional HUD budget authority. It proposes that energy improvements be financed from: (a) a portion of existing HUD modernization funds during the normal process of housing rehabilitation; and (b) non-federal funds available through performance contractors, utilities and others. Additionally, decisions on how these investment alternatives are used will be made at local levels, rather than by HUD headquarters staff. If HUD modernization funds are reduced, some capital improvement may be delayed, but since the great majority of capital funds will be sought from non-Federal sources, a significant amount of the projected energy cost savings can still be realized.

Question: What priority is this program for HUD?

Answer: The Department of Housing and Urban Development's Assistant Secretary for Community Planning and Development with concurrence from the Assistant Secretary for Public and Indian Housing and the Housing/FHA Commissioner have confirmed an agreement with the Department of Energy that formally endorses objectives of a DOE-HUD partnership to achieve an average of 30 percent energy efficiency gains in more than one million HUD-aided housing units by the year 2000.

Question: Please provide a description of specific activities and associated funding levels for the program.

Answer: The primary activities and associated funds shall be to provide technical assistance to managers of public, Indian and assisted housing at the local level. An objective of the program is to assist local housing agencies develop and implement community-wide housing modernization plans to improve substandard and energy inefficient housing to market-rate housing. This assistance is applicable to multi-unit housing authorities, as well as single family assisted housing developments. Technical assistance from DOE will be customized to meet the specific needs of a local authority, and will be built around a three part framework: (a) Planning and Setting Targets; this includes working with the Department of Housing and Urban Development to develop means of collaborative assistance, review utility allowance procedures and methodologies, and develop informative housing guidelines for local agencies, (\$300,000); (b) Planning, Implementation Assistance and Training, this includes providing direct technical and financial assistance to public, Indian and assisted housing agencies, as well as other organizations that provide low income housing.

This assistance will include audits, providing comparative cost and savings benchmarks for implementation of energy efficient measures, bid specifications and proposal development for performance contractor selection, construction management, inspection and verification, energy efficient housing protocols and guidelines for future retrofits and new construction, evaluation and monitoring, and training for staff, local building contractors, and local officials. Both DOE and HUD have acknowledged that lasting success in improving the Nation's stock of public and housing will require that local housing agencies have the ability to work with local entities and private financing institutions to create community partnerships. This DOE-HUD partnership is intended to build those institutional capabilities within local housing agencies, (\$3,600,000); and (c) Atlanta Housing Demonstration, that will provide training and technical assistance through local institutions to create an innovative low income housing program, (\$800,000).

Question: As part of the initiative, \$800,000 is requested for energy efficient low income housing development and rehabilitation in the city of Atlanta in conjunction with the 1996 Olympics. According to the justifications, DOE plans to establish a continuing revolving fund for energy efficient low-income housing construction and renovation. How will the revolving fund be financed?

Answer: The proposed revolving fund will be financed through an initial grant from the Department of Energy contingent upon the acquisition of additional financing from energy savings agreements, loan repayments, and from local and private sources.

Question: What is DOE's participation in the revolving fund in FY 1996 and in future years? Who has responsibility for maintaining the fund?

Answer: In 1996 the Department of Energy will work in collaboration with state and local agencies, and the City of Atlanta, as well as private non-profit groups to develop and implement an innovative urban, low income housing program which would include the management and operation of a revolving housing fund. Fund management has not been determined at this time.

REBUILD AMERICA

Question: In FY 1996, \$19,828,000 has been requested for the Rebuild America program, an increase of over \$11 million over the current FY 1995 level. Both the House and the Senate

approved a rescission of \$2.5 million of the FY 1995 funding provided for the program. What is expected to be accomplished in FY 1995?

Answer: DOE is working to sign up 70 partnerships in program; establish alliances with the U.S. Conference of Mayors, National Association of Counties, the International City/County Management Association and the U.S. Chamber of Commerce; create nationwide interest in the program; develop technical information materials and form assistance teams.

Question: How many partnerships are expected to be established?

Answer: By the end of FY 1995, DOE expects to have 70 partnerships participating in the Rebuild America program. All partnerships include city/county/state government and at least one private sector organization, e.g. utilities, community development organizations, colleges, universities, energy service companies.

Question: What is the duration of the funding for partnerships that are established through the program?

Answer: For those partners that receive financial awards via the annual solicitation, they may use the funding for up to 5 years. This funding will be awarded over the 5 year period based on their progress towards defined goals.

Question: What is the impact of the FY 1995 rescission on the FY 1996 budget request?

Answer: The rescission will delay the accrual of long term energy and monetary savings by reducing the number for the partnerships formed in FY 1995. The Department planned on making 15 financial partnership awards in FY 1995. The proposed reduction will prevent 6 partnerships from being formed and reduce the award size for the remaining awardee. Over 30 consortia have recently submitted applications with the expectation that \$6.0 million is available for awards. The reduction will also decrease support for outreach activities with organizations that have members who are responsible for large numbers of buildings, e.g. The United States Conference of Mayors (USCM), National Association of Counties, U.S. Chamber of Commerce, and The Association of Higher Education Facilities Officers. In January, 1995, the Department announced the Rebuild America "Energy-Smart Challenge" in collaboration with USCM. The USCM program effort will be scaled back, and similar efforts planned with other major stakeholders listed above will not occur if the proposed rescission is enacted.

The FY 1995 rescission will not affect the FY 1996 budget request, other than to make it particularly important that requested FY 1996 funds are appropriated.

Question: Why is DOE requesting such a large increase in the program? Wouldn't it make more sense to get some experience with the program before expanding it so significantly?

Answer: There are three reasons for the large increase: (1) to provide the technical assistance and support services for the partners already participating in the program - 70 partners in FY 1995, (2) To provide the second round of financial awards as "seed" monies for consortiums of cities, communities and private sector organizations, and (3) To expand the highly successful alliance with the U.S. Conference of Mayors to other local government organizations.

In FY 1995, DOE devoted a majority of our time and effort to developing nationwide interest and setting up the support services for the Rebuild America Program. The programmatic structure has been planned for a five year program ending in the year 2000. Customer service, technical assistance, and evaluation structure implemented this year was designed to accommodate a \$20 million/year program. The DOE has gained valuable experience with working with stakeholders for an entire year of planning (FY 1994) and during FY 1995. The concept for the program has been validated this year, and the funding increase is necessary to accomplish program goals for the year 2000. By working through organizations like USCM, the alliance reduces risk, increases

effectiveness, and creates a ready network for expanding the number of partners participating in the program.

Question: Please provide the specific activities funded in FY 1995 and FY 1996 and the associated funding levels for each activity.

Answer: The specific activities to be funded and the associated funding levels for each activity are as follows:

	<u>FY 1995</u>	<u>FY 1996</u>
Financial Partnerships Awards	\$6.5M	\$14.5M
Technical Assistance to Partners	\$1.2M	\$3.5M
Information Materials/Partnership		.
Development/Planning/Evaluation	\$0.8M	\$1.8M

Question: According to the justifications (page 255), DOE will participate in project kick-off meetings with each participant to assist with planning, publicity releases, and agreement on the type, level, and schedule of technical assistance needed. Why is it necessary for DOE to assist in project kick-off meetings and provide assistance with publicity releases?

Answer: DOE will participate in project kick-off meetings to provide information about resources available from Rebuild America and other DOE programs, and to work directly with the team to identify technical assistance needed from DOE.

It is in the best interest of the program and our partners to ensure that consistent messages are given to the public about benefits to cities and the private sector for participating in a Rebuild America partnership. Generic press releases, program marketing information, and logos will be provided to participating partners to increase public awareness of efforts by partnerships in collaboration with DOE.

Question: What types of technical assistance is expected to be provided?

Answer: DOE will provide customized assistance to help partners plan and implement building energy retrofit projects. Technical assistance will also make available the most current information about cost and performance of energy efficient technologies/practices, e.g. lighting, heating and cooling systems, monitoring performance, operation and maintenance, and financing options.

This assistance will be provided through a variety of mechanisms; telephone, on-site consultations, information materials, seminars and through the Rebuild America peer to peer network.

Question: The budget justifications (page 256) indicate that results from the program will be evaluated for both the voluntary and assisted partnerships. In addition, "an aggressive marketing program will be accelerated based on accomplishments and lessons learned from the prior year." What is the nature of the marketing program and why should it be accelerated?

Answer: In FY 1995, the marketing and communication activities included development of informational materials and dissemination to 8,000 organizations, presenting the program at major conferences and association meetings, and initiating partnerships with critical stakeholder organizations, e.g. The U. S. Conference of Mayors (USCM).

Accelerating efforts in marketing will allow us to replicate the USCM alliance with National Association of Counties, International City/County Management Association, U.S. Chamber of Commerce, and others. To meet the goals of the program - 25% energy savings in 3 billion square feet, or annual savings of \$650 million for building owners - DOE needs to aggressively pursue partnerships like that with USCM.

Question: The program proposes to establish an awards program to provide special recognition for exceptional performance by Rebuild America partners. How many awards will be given and what is the level of the awards to be provided?

Answer: In FY 1995, 6-15 financial "awards" will be given that will range from \$250,000 to \$1,000,000. These awards are based on proposals received in response to an annual solicitation.

Recognition awards will not be financial awards, they will consist of special recognition ceremonies by the Secretary of Energy at annual Rebuild America forums or at annual conferences sponsored by our allies, e.g. USCM.

Question: What is the criteria for making the awards?

Answer: The criteria are as follows: (1) Project Goals - total square feet of floor space to be targeted for energy efficiency improvements, clearly defined energy efficiency goals, percentage improvement in targeted buildings, and reasonable estimates of resource requirements; (2) Potential Benefits - total electricity savings, total energy savings, impact on local economy and job creation, and potential for replication; (3) Marketing and Monitoring activities - plans for choosing buildings, understanding of the buildings market, plan to sustain program after DOE funding ends, and plan to monitor actual energy savings and to track progress; (4) Capital Investment Plan - Adequacy and reasonableness of capital investment plan, evidence of commitment to furnish funds from other sources, and adequacy of projected costs; and (5) Key Applicant qualifications.

EXEMPLARY BUILDINGS

Question: The FY 1996 budget request includes \$992,000 for passive solar efforts in support of the exemplary buildings program, an increase of about \$70,000 above the current level. According to the justifications (page 258), non-residential passive-solar buildings can be designed to reduce, on average, the total energy use for heating, cooling and lighting by about 75 percent compared with current practice and can reduce existing building use of energy by 50 percent through renovation at little or no increase to construction costs. What has been accomplished to date with passive solar buildings?

Answer: As a result of past research, it is known that passive solar non-residential buildings can be designed to require nearly 50 percent less energy than conventional buildings for their heating, cooling and lighting needs at little or no additional cost. This is achieved through proper design strategies and appropriate building materials and equipment. The program has been instrumental in developing design strategies that take advantage of these developments, and in demonstrating their effectiveness in real buildings. The exemplary non-residential buildings program was initiated to advance this know-how. Several exemplary buildings being designed with industry or expected to be constructed in the near future are expected to advance energy performance into the 50 - 80 percent range.

Question: What is the basis for the projected energy savings?

Answer: The figures cited, 75 percent for new construction and 50 percent for renovated structures, are goal statements. Analytical studies improved knowledge on integrating passive solar strategies into buildings, and work on advanced daylighting systems, along with building performance data acquired from passive solar buildings using the Department's Short-Term Energy Monitoring (STEM) system, indicate that these goals are attainable. Demonstrations of individual exemplary buildings have shown these levels of savings.

Question: If the energy savings can be so significant with little or no additional costs, why hasn't this technology been deployed to a greater extent?

Answer: The basic problem in adoption of current know-how is two-fold. First, there has been lack of design aids that have the necessary technical capabilities, that are easy and inexpensive to use, and have been adequately validated using appropriate evaluation techniques and energy

performance information from "real" buildings. The Version 1.0 package of passive solar design strategies for smaller commercial and institutional buildings, to be released later this calendar year, will assist in addressing this issue.

Second, there remains a lack of operational information on a large enough population of buildings to convince builders/developers of the advantages of passive solar non-residential buildings. While there are many buildings that incorporate specific technologies that yield modest energy benefits, there are relatively few that combine the many strategies and design features that provide the large savings identified. The Exemplary Buildings Program will provide insights on how these buildings function and the necessary data to demonstrate the effectiveness of the passive solar strategies.

Question: What specific activities will be supported in FY 1996 and what are the associated funding levels?

Answer: The two primary activities are: (1) design assistance required for exemplary buildings to be built, measurement of their performance, and publication of the results in the form of case studies, \$542,000, and (2) field test and improve the capabilities of the suite of passive solar design strategies, \$450,000. The increased funding is required to properly measure the performance of these advanced buildings. The funding will leverage industry design and construction funds and its contribution to the development of the suite of design strategies.

BUILDINGS DESIGN FEE REFORM

Question: In FY 1996, DOE has requested \$988,000 to initiate a program to investigate ways design contracts can take into account the benefits possible by putting energy-efficient technology into buildings by using incentives, performance contracting, rebates from utilities, and return on investment clauses from clients. How will this program be implemented?

Answer: DOE will work closely with building owners/ developers, architects and engineers, and utilities in developing a program that will (1) determine the extent to which customary design fees inhibit the ability of architects and engineers from incorporating cost-effective energy efficiency and renewable energy strategies into buildings, and (2) determine the effectiveness of various incentives that defray higher design costs. The funding would, therefore, be used to:

- Identify the influence of established fee structures on ability to design for energy efficiency and renewables and factors keeping investors from paying the fees. This would entail primarily surveying A/Es, and to a lesser extent, builders/developers.
- Develop model incentive programs. These may include various performance based fee systems including shared energy savings similar to those used by Energy Service Companies.
- Cooperatively implement pilot programs with selected utilities.
- Evaluate pilot programs.
- Refine model protocols, procedures and/or agreements for use by design firms and developers/owners.

Question: What will be the source of funding for the financial incentives?

Answer: The initiative is not an incentives program, but one designed to clarify the issues associated with design fees that hinder the incorporation of energy efficiency and renewable energy strategies in buildings, and to overcome those problems. The private sector is expected to share in the costs required to clarify the issues and test the pilot programs. The fee structure between developer and architect along with any participation from utilities and/or energy service companies would provide the financial incentive in actual building projects.

Question: What is the expected ongoing role of DOE in the program?

Answer: The Department's role is one of facilitator. After about two years, when the model protocols, procedures and/or agreements are developed, the Department will no longer have a role and will not request a budget for this activity.

WINDOWS AND GLAZINGS

Question: As part of the windows and glazings program, the FY 1996 request would fund phase II of the Electrochromic Initiative at a level of \$3,923,000, an increase of approximately \$1.4 million above the FY 1995 level. What is the total anticipated cost for the program?

Answer: The anticipated cost of the electrochromics program initiative is \$3.1 million in FY 1994, \$2.5 million in FY 1995, \$3.9 million in FY 1996, \$4.5 million in FY 1997, and \$3.7 million in FY 1998. The total program cost over this period is \$17.7 million. It is expected that industry will invest heavily in manufacturing and production technologies following the conclusion of Phase III. Industrial cost-sharing throughout the life of the initiative is anticipated at 50 percent.

Question: How many phases are there for this initiative and what is the cost and duration for each phase of the program?

Answer: The Electrochromics Initiative is comprised of three phases. Phase I consists of a two year period of development and testing of working samples of electrochromic devices, and is being carried out by two separate industry teams. DOE funding for Phase I is at \$3.1 million for FY 1994 and \$2.484 million for FY 1995. Phase II of this initiative will develop full size electrochromic prototypes over a two year period, with \$3.9 million of FY 1996 funding and \$4.5 million of FY 1997 funding. Phase III of the initiative will carry out demonstration testing of electrochromic windows over a one year period with FY 1998 funding of \$3.7 million.

INDOOR AIR QUALITY

Question: The FY 1996 budget request proposes to reduce the analysis on radon mitigation carried out by the Energy Conservation program, from \$200,000 to \$100,000. How much funding is requested government-wide for radon-related activities?

Answer: In addition to the small program within DOE's Building program, Federal funding on the radon topic is as follows: (1) Approximately \$10,000,000 per year for DOE's Office of Energy Research program on radon health effects, (2) Approximately \$10,000,000 per year for EPA's Office of Air and Radiation implementation efforts authorized by The Radon Abatement Act and (3) several million dollars by all Federal agencies in their effort to meet the requirements of the Radon Abatement Act.

Question: What has been accomplished to date with the funding provided to the Energy Conservation program?

Answer: Significant contributions by the Office of Building Technologies radon research program are: (1) mathematical radon entry models that are now used by states and other organizations in assessing radon potential, (2) published assessments of the energy impacts of radon mitigation, and (3) demonstrated energy efficient alternative mitigation techniques.

Question: Does DOE plan to request any further funding for the Energy Conservation radon mitigation activities?

Answer: Yes, there have been additional needs identified for the energy conservation supported radon program and the requirement to ensure that radon mitigation efforts do not unduly increase energy consumption and hence increase other environmental effects.

RESIDENTIAL ABSORPTION HEAT PUMP

Question: The FY 1996 budget request continues funding for the Carrier/DOE/Natural gas industry residential absorption heat pump program at a level of \$3,700,000. What will be accomplished with the funding in FY 1996?

Answer: The FY 1996 budget request of \$3,700,000 will be used to fund Carrier Corporation to develop the advanced cycle Generator Absorber Heat Exchange (GAX) residential gas fired Absorption heat pump. With Carrier Corporation, the Gas Research Institute (GRI) and the Natural gas industry providing 67% of funding, work in FY 1996 will focus on redesign of critical components for cost reduction, and advanced manufacturing techniques to reduce the product risk in support of Carriers go-no/go decision to manufacture the GAX heat pump in 1997.

Question: When does DOE anticipate completing this program and how much funding will be required to complete this program?

Answer: DOE participation in this program will end with the introduction of a production model GAX heat pump in FY 1998. The DOE funding required beyond FY 1996 will be approximately \$5,000,000 over the following two years.

ADVANCED DESICCANT TECHNOLOGY

Question: In FY 1995, DOE initiated a joint DOE/Utility/Industry program to evaluate new and emerging desiccant technology with the potential for lower energy use, greater comfort and productivity, reduced electrical peak loads, and improved air quality. The program was funded at approximately \$2 million in FY 1995. When are the results expected from evaluations of the desiccant technology program initiated in FY 1995?

Answer: Design and fabrication of prototype desiccant systems prepared for limited field testing will be completed in FY 1996. Focus will be on analytical tools, test standards and comparison analysis between HVAC and desiccant comfort conditioning products. Laboratory testing of desiccant prototype production equipment and desiccant versus conventional conditioning systems comfort and energy use comparisons will be done.

Rating standards based on temperature, humidity, and indoor air quality (IAQ) which incorporate desiccant components and save building energy will be evaluated in FY 1996.

Question: Why was no funding requested for this program in FY 1996?

Answer: The advanced Desiccant program in the Thermally Activated Heat Pump program was a new start in FY 1995. DOE considered \$1,990,000 funding level to be the appropriate level for initiating a program for evaluating desiccant systems. With the combined gas industry and manufacturers cost share, DOE believed it could help industry with enough "push" for them to continue the program through 1996, and beyond, therefore no FY 1996 funds were requested.

LIGHTING AND APPLIANCES

Question: The budget request includes \$979,000 "to initiate collaborative efforts with manufacturers, trade and professional organizations, conservation advocacy groups, and others to adapt existing or near-term fixture, lamp, and lighting system technologies to replace inefficient incandescent lamps." Why is funding for these activities necessary? What will be the impact of not funding these activities?

Answer: Incandescent lamps use about 2.2 quads of electricity a year which costs consumers \$15 billion. There are new lamp technologies that could be developed in the near-term which are 2 to 4 times more efficient than incandescents. If these technologies were to become widely used, they could ultimately save consumers as much as \$10 billion a year. There are three main reasons which are preventing this from happening: (1) These new technologies exist primarily in the form

of prototypes which are not yet manufactured. One major US manufacturer estimates it would take an initial investment of \$15 million to develop the machines and processes to manufacture their new lamp in any quantity. Manufacturers are not ready to make this investment until they have more assurance that sales will be good enough to warrant such investment. (2) In many cases, these new lamps require new types of fixtures -- without which the lamps will not be used. Fixture manufacturers, likewise, are not ready to invest in developing and manufacturing new fixtures until there is some guarantee that the new lamps will achieve a worthwhile market and be available in the future. (3) These new improved lamps are likely to cost more than the incandescent lamp consumers are used to buying. Although the life-cycle costs are dramatically lower, the high first cost represents a major market risk to manufacturers. This project will stimulate collaboration among manufacturers, utilities, retailers, financing organizations, building owners, etc. to overcome these market barriers so that energy savings of billions of dollars a year can be passed on to a wide range of energy consumers.

If this project is not funded, the market introduction of highly-efficient domestic technologies to replace the inefficient incandescent lamp will be delayed by several years and will not reach the same level of energy savings.

Question: What is the role of conservation advocacy groups, trade and professional organizations, and manufacturers in the introduction of energy efficient technologies?

Answer: The primary activity will be to get manufacturers and end-users together to identify roadblocks, to assess their needs and capabilities, and to formulate strategies and plans for overcoming market obstacles. Lighting design professionals and those who specify lighting equipment for purchase will be included in an information network so that they can learn about the new technologies and how it may be utilized. Conservation advocacy groups are not principal partners in this; however, once the technology is well on its way to commercialization, they can be of help in publicizing the advantages of this new technology and advocating its use.

Question: How do these efforts differ from programs established by utilities and energy service corporations for relighting?

Answer: Utilities and energy service companies usually work to promote more use of the most efficient conventional technology. They follow a low risk approach by promoting well-characterized, readily available technologies. They will not usually take a risk on new, emerging, or unconventional technologies which have the potential for far higher efficiency. This project begins at an earlier point in the commercialization process by stimulating industry to manufacture new, more efficient products and overcoming initial market barriers.

Question: How much federal funding supported the development of these same technologies?

Answer: The technologies involved are those which provide a more efficient alternative to incandescent lighting. Many of these technologies took decades of development to get where they are today and were funded by many and diverse sources. Advanced lighting technologies have originated in industrial research laboratories, government research centers, universities and small business firms. Most of the technologies have benefitted to some extent from past government research programs.

Question: As part of the "Partnerships for Technology Introduction" program of the Climate Change Action Plan in FY 1995, DOE plans to conduct market analysis, perform testing, and collaborative equipment design with partnerships to accelerate the export of US produced high-efficiency products. What is DOE's role in these partnerships?

Answer: Several European countries, through the International Energy Agency (IEA) are initiating large scale purchase programs to introduce new building equipment technology to the European market. These collaborative IEA efforts adopt an approach pioneered by Nutek, a Swedish concern considered a world leader in "market pull" for energy efficient technologies. Through its participation as an IEA member, DOE is in a position to ensure that US manufacturers

have the opportunity to participate in these initiatives. The Partnerships for Technology Introduction serve as a vehicle for communicating information on foreign market potential, product requirements, etc which the IEA and others are developing to support European market pull initiatives.

As new technologies emerge into the U.S. market, the Partnerships will identify those technologies for which exports are critical to rapidly increasing U.S. manufacturing volume and reducing cost. One opportunity, currently under discussion with the Gas Research Institute (GRI), concerns exports to Europe of GRI's engine-driven gas heat pump products. This joint effort would involve identifying prospective European partners, redesigning the units for European application, and testing and evaluating them in a European setting, all in collaboration with GRI and a US manufacturer.

Question: Why is DOE conducting marketing analysis instead of the industries to be benefitted by the improved technologies to be developed?

Answer: DOE conducts a variety of data collection and analysis related to potential applications of energy efficient technologies. These efforts are often undertaken to support decisions within DOE's R&D programs. In the case of the Technology Introduction Partnerships program, any market data is generated in partnership with the industries concerned. The purpose is to help manufacturers and other firms to make sound initial decisions about the deployment of new technology.

DOE's contribution is necessary because new technologies address market niches and have unique product characteristics that industrial firms may not be aware of in their present day-to-day businesses. New technologies are often first brought to market by small entrepreneurial firms targeting niche markets. In addition, DOE's role in assembling large-scale purchases and brokering financial support can change market dynamics considerably. These factors must be factored into joint market analysis by DOE and its partners.

Advantages of DOE's involvement include the ability to share independently-derived data that is authoritative and unbiased with a wide spectrum of organizations involved in technology deployment decisions. Many of these organizations, including financial institutions, distributors, energy service firms and public agencies, do not have the means to independently generate reliable market information on new technologies.

Question: In FY 1996, DOE plans to initiate new programs on laundry technologies and advanced lighting in collaboration with utilities and manufacturers. Specifically what new programs are to be initiated in FY 1996?

Answer: DOE does not plan to initiate new programs in fiscal year 1996. In the residential laundry area in 1996, the Department will expand its 1995 test and evaluation efforts on clothes washers as high efficiency products begin to emerge and enlist new partners (e.g., retailers and national accounts) in market pull activities. A consortia will be formed for advanced clothes dryers (e.g., microwave dryers) as the technology matures, as expected, in the next year. In the lighting area in 1996, the Department will concentrate on expanding 1995 startup market pull activities for the sulfur lamp. These activities were initiated earlier than expected, based on the extremely favorable private sector response to the Department's prototype demonstrations at its headquarters building and the National Air and Space Museum. Additional sulfur lamp cooperative demonstrations are planned for 1996.

Several partnerships will be initiated in 1996, but primarily as extensions of successful 1995 pilot or startup projects:

- Establish additional partnerships with apartment consortia to address other appliances based on the 1995 effort on apartment-size refrigerators and its expected success in transforming that market.

- Expand the high-efficiency appliance pilot project for manufactured housing in the Northwest to other regions of the country and to builders of conventional homes through additional partnerships, based on very favorable public and manufacturer response to the pilot project.
- Beginning with the hospitality (hotel/motel) industry partnership, promote volume purchases of a hot water filtration and reclamation system for commercial laundries, based on expected positive results from field testing at a Red Lion Hotel this year. Initiate additional partnerships for institutional laundries such as hospitals, universities and state institutions. Initiate projects with the hospitality industry for other technologies such as packaged heating and cooling equipment and lighting controls based on interest and needs of partners.

Question: How do activities funded in FY 1995 contrast with activities requested to be funded in FY 1996?

Answer: In Fiscal Year 1995 the Department assessed the expected costs and performance of available and emerging technologies and established voluntary, industry-led consortia with a desire to purchase and install highly efficient appliances.

Consortia were established with: 1) the hotel and motel industry; 2) the manufactured homes industry, 3) the Consortium for Energy Efficiency and its 35 gas and electric utility members, 4) the National Association of Energy Service Companies, 5) a laundry consortium (manufacturers, utilities, and EPRI) to test and evaluate efficient washing machines, and 6) procurement officials for states. Additional consortia are being developed. The resulting infrastructure of consortia establishes the foundation for introducing and installing more efficient appliances. In fiscal year 1995, the Department, with the consortia, is initiating field tests of key technologies, organizing large scale purchase commitments to pull new technologies into the market and conducting other market pull activities. The four main programs initiated in fiscal year 1995, to be continued in fiscal year 1996, are described below.

In Fiscal Year 1995, the Department is providing technical and management assistance to an ad hoc consortium in the Northeast that is planning a large scale purchase (25,000 units) of best available efficiency refrigerators for a public housing authority. These refrigerators save more than 50 percent of the energy used by the units they replace. With the fiscal year 1996 budget, DOE will provide technical support to the consortium in a mass buy of refrigerators that are more efficient than the best presently manufactured, thereby pulling new technology into the market. These units save an additional 14 percent in energy use. In 1996, DOE will also recruit participants nationwide to increase the size of the mass buy. The objective is to enlarge the mass buy to a level that will cause manufacturers to convert their entire production of 1.5 million apartment-size refrigerators to the highest efficiency levels.

In Fiscal Year 1995, the Department is providing technical assistance to a consortium of the manufactured homes industry, utilities, and appliance manufacturers in the Pacific Northwest. The Department has assembled, with the consortium, a package of cost-effective appliances which save 20 percent of the energy used by conventional appliances and is negotiating utility rebates to help finance the appliances and brokering appliance purchases to keep costs down and pass savings to customers. In fiscal year 1996, the appliance package will be enlarged with space heating heat pumps, heat pump water heaters, improved washers and dryers, and other appliances, with an energy savings of up to 50 percent. In 1996, DOE will also expand the program to other regions of the country and to builders of conventional homes through additional partnerships.

In Fiscal Year 1995, the Department established the hotel and motel consortium and, as its first technology introduction, will field test a laundry water heat reclamation and filtration unit. This unit will save 50 percent of the energy and 65 percent of the water associated with laundering. In fiscal year 1996, the Department will promote a mass buy of the filtration technology if proven by the field test. Also in 1996, as requested by the consortium, DOE will initiate technology introduction activities for technologies such as packaged heating and cooling equipment and lighting controls.

One of the Department's major recent accomplishments was the demonstration of laboratory prototypes of the sulfur lamp at the Forrestal building and the Smithsonian Air and Space Museum. With the Department's continuing development of the high-power sulfur lamp, expected to culminate in initial product introduction in 1996, intensive organizing of market-pull partnerships has begun.

A jointly funded demonstration will be started in a large Post Office facility in 1995, with the Department monitoring energy consumption and productivity effects. With the requested fiscal year 1996 budget, several additional demonstrations will be conducted in commercial buildings which typify major market segments. One of the Department's goals in these demonstrations is to stimulate light fixture manufacturers to develop a variety of fixtures for the unique sulfur lamp. At present, the unavailability of fixtures is a critical impediment to early deployment of this exciting new technology. The market-pull approach will obviate a major Department R&D effort to support development of new fixtures.

Question: What is expected to be accomplished during FY 1995 for the program?

Answer: As indicated in to the question above, DOE has accomplished much already and anticipates significant added progress before the end of the fiscal year. These accomplishments are listed below:

- Six consortia have been established as a foundation for introducing and installing more efficient appliances.
- An ad hoc consortium in the Northeast, with DOE assistance, is requesting bids from manufacturers for a large scale purchase (25,000 units) of best available efficiency refrigerators, initially for the New York City Public Housing Authority.
- The Department's manufactured homes partnership pilot project in Oregon has produced sales of a package of cost-effective appliances which save 20 percent of the energy used by conventional appliances. Between 30 and 35 homes with the high-efficiency package have sold since project startup in March.
- Field testing of a laundry water heat reclamation and filtration unit will have begun at a Red Lion hotel in conjunction with the hospitality industry consortium.
- Jointly funded demonstration of a sulfur lamp-based lighting system in a large Post Office facility, with the Department monitoring energy consumption and productivity effects.

Question: DOE plans to provide analytical support (technical, economic, and market), field performance data, data bases for utility incentive programs, and government purchasing programs to select technologies with the most potential for commercialization and deployment. What type of market support will DOE provide?

Answer: DOE carries out a wide range of data gathering and analytical activities for the benefit of decision-makers involved in manufacturing, distributing and purchasing appliances and lighting equipment embodying new technology. DOE also facilitates the syndication of high-volume purchases of new, high-efficiency equipment by organizing and providing technical assistance to groups of potential buyers.

Question: Why should DOE provide assistance for marketing and commercializing technologies rather than manufacturers?

Answer: DOE traditionally invests in technology through advanced technology R&D. New products that result from DOE investments are often developed by small businesses or new entrants in existing markets. Electronic fluorescent light ballasts and heat pump water heaters are examples. These firms, while among the most innovative, often do not have the resources to introduce new products into national markets on their own.

Widespread success with market-pull technology acquisition programs (e.g. Nutek in Europe and Super-Efficient Refrigerator Program in the US) indicates that a respected organization with seed funding and technical support can bring together disparate interests (manufacturers, utilities, building owners, financial institutions) to stimulate demand for products not yet available in the marketplace. The effect is to overcome the "chicken and egg" problem associated with the high risk for manufacturers to invest in new product beyond the R&D stage without an established market and consumers' insufficient access to new products in large quantities and at acceptable cost to generate the sales volumes needed to convince the manufacturers to proceed. Experience has shown that sufficient market demand can be established in the early technology introduction phase to eventually transform the market.

In response to Section 127 of the Energy Policy Act of 1992, the Department evaluated the potential for the development and commercialization of appliances (including HVAC), which are substantially more efficient than required by Federal or State law. The Department held eight workshops with private and public sector stakeholders. Workshop participants recommended several actions to achieve more rapid introduction of highly efficient technologies into the marketplace: 1) technology innovation and information (test and evaluate new technologies), and 2) "market pull" (market aggregation to pool purchasing power, utility and other incentives, and infrastructure and information enhancements). The private sector stated that these actions were a unique contribution that the Department could make and that would not be pursued by others.

More specifically, people who decide which technologies to purchase for their firms told the Department about their concerns. The Department heard that an impartial source of information on energy efficient technologies was needed, and that the Department should take on that role. Most firms, the motels and hotels industry is a good example, are not technically oriented. To become so would divert attention from their business. They have told the Department that it could play a crucial role in enabling them to make good economic investment decisions. The right technologies will lower costs, make them more competitive, and enable them to provide the best possible services to their customers.

Question: To what extent are utilities offering financial incentives?

Answer: In recent past utilities have spent about \$2 billion on total energy efficiency activities--only a small fraction of what they spent on new supply. Of the total DSM budgets, perhaps 30-50% went for rebates. All utility DSM activities and especially rebate programs are being drastically cut or eliminated due to fears of utility deregulation.

Question: Have utilities reduced the level of rebates they are offering? If so, how does this impact the program?

Answer: Yes, very substantially. These incentive reductions create challenges in the short term, since DOE and others must now look to different means to send investors in energy efficiency accurate market signals reflecting the full benefits of their decisions. Demands on EERE for additional financial and technical assistance have greatly increased as a direct result of reductions in utility DSM activities. DOE believes that other programs can be designed to fill the vacuum and has begun, in conjunction with utilities and retailers, to explore alternative financing options through institutions like the Federal National Mortgage Association. However, reductions in utility DSM activities make it even more critical that adequate funding for EERE continue in the public interest.

CODES AND STANDARDS

Question: In the discussion of performance indicators and measures for the codes and standards program, the budget justifications (page 295) indicate that the performance measure for new buildings is that the Department will have worked with States, builders, financial institutions, and others, which will result in a 30 percent improvement in the energy efficiency of new homes compared to 1988 levels. What is the basis for determining the achievement of this measure?

Answer: The basis for determining the achievement of this measure is the energy use of homes prior to the publication of the 1989 Model Energy Code as compared to the energy use of homes constructed subsequently as reported by the Energy Information Agency in its Residential Energy Consumption Survey. Interim state indicators will also be used.

Question: According to the justifications (page 297), program delays will result in final rules for amended test procedures for central air conditioners and integrated heat pump-water heaters, water heaters, kitchen ranges and ovens and clothes washers not being issued until FY 1996. What is the cause of the delays? Will the final rules actually be published in FY 1996?

Answer: The primary reason for the delay in completing the rules for these test procedures has been limited staff and resources. Passage of EPACK more than doubled the products for which the office of Codes and Standards is responsible. The extra activities required to establish standards programs for the commercial equipment has required delaying some lower priority rules. The rule for water heaters, kitchen ranges and ovens and clothes washers has been delayed an additional three months to provide industry more time to evaluate the proposed tests. The Department expects to publish the final rule for these products early in 1996. The rule for the integrated heat pump water heaters has been further delayed and the final rule is not expected to be issued until early in 1997.

Question: According to the justifications (page 298), final rules will be issued on standards for certain residential appliances in FY 1995 and FY 1996. What is the schedule for proposed rulemakings and final rules for both FY 1995 and FY 1996?

Answer: The Department expects to issue final rules amending standards for direct heating equipment, kitchen ranges and ovens, mobile home furnaces, oil and gas water heaters, pool heaters, room air conditioners before the end of 1995. The proposed standards for refrigerators and freezers are expected to be published in June and the final rule will be issued by the end of 1995. The Department expects to issue a notice republishing standards for lamp ballasts in September 1995, and a final rule in June 1996. Proposed amended standards for central air conditioners and heat pumps are expected to be issued in November 1995, and a final rule in September 1996.

Question: In FY 1995, DOE was going to take steps to assist manufacturing associations to establish enforcement programs for their members, where they do not currently exist. When will the results of DOE's efforts be known? When will DOE know if further efforts are required?

Answer: From the beginning of the appliance standards program, it was determined that the program should be self policing. The Department has established procedures for reporting instances where it is believed that a product may not be in compliance with the applicable energy efficiency standard and for investigating these allegations. The Department has continued to look for ways to ensure accurate reporting of energy efficiency data for the covered products. For example, the Department and the National Electrical Manufacturers Association have agreed to use the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program to ensure the accuracy of the luminaire performance measurements. For the residential products, the Association of Home Appliance Manufacturers, the Air-Conditioning and Refrigeration Institute and the Gas Appliance Manufacturers Association all are collecting and reporting product energy efficiency data to the Department on behalf of their members. Because these reports are provided to all of the members, errors or inaccuracies in the reported data are more likely to be identified.

Question: In FY 1994, DOE funded State proposals which demonstrate and document exemplary implementation and enforcement of energy code programs that can be replicated in other States. What were the results of the State programs and have any of the programs been replicated in other States?

Answer: Three states, California, Oregon and Washington, have recently been selected to package exemplary building energy code programs. Plans are being finalized to publicize the winners.

Question: In FY 1996, \$8,420,000 has been requested for the Climate Change Action Plan State code update program, which funds cooperative efforts with States to update, implement, and enforce their residential and commercial codes. When will results from the activities funded in FY 1995 be available?

Answer: The Department is scheduled to award approximately \$5 million in grants to States to update, implement, and enforce their residential and commercial codes. Results of these activities will be available during the next 2 years.

Question: What specific activities will be supported in FY 1996 and what are the associated funding levels?

Answer: The specific activities supported in FY 1996 and their approximated funding levels are: Training \$2,526,000, Education \$1,684,000, Code Enforcement \$2,526,000, and Adoption \$1,684,000.

Question: What level of cost-sharing is expected for this program?

Answer: The level of cost-sharing will be a minimum of 25%, the same as was required in 1995.

FEDERAL ENERGY STANDARDS

Question: In FY 1996, DOE is requesting \$1,140,000 to support Federal energy standards, which is approximately the same level that was provided in FY 1995. The standards apply to Federal residential and commercial buildings. How do the standards for Federal buildings compare with the standards that DOE is advocating that States adopt?

Answer: The Federal residential energy efficiency code is approximately 11% more energy efficient for one- and two-family dwellings and 25% more energy efficient for multifamily dwellings when compared to the Model Energy Code, 1992. The Federal commercial energy code is substantially the codified version of ASHRAE Standard 90.1-1989 with addenda included. Federal guidelines will substantially match the standards that DOE is advocating that states adopt.

FEDERAL ENERGY MANAGEMENT PROGRAM

Question: The FY 1996 request for the Federal Energy Management Program (FEMP) totals \$25,408,000, which is an increase of approximately \$1.9 million, or about 8 percent, above the FY 1995 enacted level. The House and Senate have both proposed rescinding \$5 million from the Federal energy efficiency fund, and the Senate has also proposed an additional reduction of \$1 million from planning, reporting, and evaluation activities.

In FY 1996, \$7,440,000 is requested for the Federal energy efficiency fund, which is anticipated to fund approximately 100-150 grants for energy efficiency, solar and other renewables and water conservation projects at Federal facilities. How successful do you consider the Federal energy efficiency fund to be?

Answer: The fund has shown itself to be one of the most successful methods of reducing future Federal budgets and savings energy and water resources. Current economic returns indicate that for each \$1 spent from the Fund for projects, Federal energy and water budgets are reduced by approximately \$4 over the life of the project. The most recent proposals submitted have offered increasing private financing for the projects and will reduce future budgets outlays by \$7 to more than \$10 for every \$1 invested.

The Fund has been particularly well received by smaller agencies which have had difficulty in maintaining a dedicated source of energy conservation funding given the many other budget priorities they face. Even larger agencies have sought financing since they all have more projects to fund than there are funds available in their limited budgets. At least two agency energy managers

have stated that if it were not for the Fund, the costs savings from the projects would not have been realized.

In FY 96 we intend to focus on those projects that have substantial leverage using private sector funds for even greater effectiveness.

Question: Has the demand for the grants been increasing or staying relatively constant?

Answer: The demand for grants has been increasing. In FY 94, proposals were received at a rate of 4.2 per month. In the FY 95, the rate increased to 11.6 per month and more are arriving every week (four arrived in the period from May 15-17, 1995). In all, 119 proposals have been received requesting \$18.7 million in grants, \$4 million more than the total program funding.

However, we have recently told agencies that the proposed \$5 million rescission will prevent us from funding most proposals in hand, or new proposals, until the funds are released or FY 96 funding is received. We expect that facility managers will slow their proposal preparation until the availability of funds becomes clear.

The shortage of funding will increase future budget expenditures by a minimum of \$25 million in excessive energy costs and with leveraged projects the figure may go as high as \$150 million.

Question: Is the \$7.4 million funding level requested in FY 1996 expected to be the ongoing funding level for the program?

Answer: Near term funding level requests are expected to be in the range of \$7-10 million. However, between FY 1995 and 2005, there are outstanding energy and water conservation projects in the Federal sector requiring an estimated \$6 billion of investment capital. These projects will result in more than \$20 billion in future budget reductions. Funding for these projects is expected to come from both private sector and Federal sources. The Fund, along with agency appropriations, provides Federal project funding. The Fund can also be used to accelerate the use of private sector financing. Therefore, future requests may increase until each agency develops a sufficient and stable source of Federal or private sector capital to accomplish all the cost-effective projects.

Question: In FY 1996, \$5,758,000 is requested for planning, reporting, and evaluation activities, which represents an increase of approximately \$1 million over the FY 1995 enacted level. In FY 1996, \$1,618,000 has been requested to enable DOE to communicate investment opportunities and provide technical assistance to all Federal agencies and to assist agencies in meeting requirements for energy savings. How does DOE communicate with these other agencies to make them aware of investment opportunities and what technical assistance does DOE provide?

Answer: FEMP actively communicates with Federal agencies through the Interagency Energy Management Task Force and the Federal Interagency Energy Policy Committee, referred to as the "656" Committee. In addition to the Task Force, FEMP has established over a dozen working groups which examine a variety of topics to resolve specific technical and programmatic issues and develop new initiatives for Federal implementation. Under FEMP leadership, FEMP works through the Task Force to assess progress by agencies in achieving energy savings, collect and disseminate information to agencies, States, local governments and the public on effective techniques and technologies to promote energy efficiency and water conservation efforts. We have also developed a wide range of outreach activities, including a bimonthly technical update, which focuses on particular areas of interest or concern for Federal energy managers and others. Through teleconferences, electronic bulletin boards, technical fact sheets and teams stationed in the field, we continue to expand our communication approaches to Federal energy managers, utilities, and private sector organizations in support of agencies' efforts to reduce Federal energy consumption in their facilities, vehicles and operations.

With the significant increase in projects and programs resulting from the Energy Policy Act of 1992 (EPAct) and Executive Order 12902, planning, reporting and evaluation looks at existing programs to find the most effective and efficient, cost-saving projects and practices to transfer to others for

implementation. EAct and Executive Order 12902 require greater analysis; therefore, energy efficiency products, water conservation, and life-cycle analysis data are assessed and validated to verify energy savings and environmental benefits. By finding ways of implementing programs, transferring their successes, overcoming barriers, and sharing with other agencies and the private sector, we anticipate greater acceptance of agency participation in a wide range of programs to increase energy and water efficiency in the Federal government.

An information campaign is being developed around the theme, "a new way of doing business." It began with a teleconference on April 6 to more than 170 sites that announced the Energy Savings Performance Contracting Rule and contained a complete overview of how to implement an Energy Savings Performance Contract. The campaign will include articles, agency awareness kits, special events, videos, publications and ways to receive our technical support to implement a project. An Energy Savings Performance Contracting "How to" Guide and model solicitation have been developed and are being distributed.

Also in 1995, FEMP launched a pilot Regional Energy Action Project, stationing two-member teams of experts in three regions (Seattle, Chicago, and one other to be selected), to help Federal energy managers in the field implement efficiency improvements in their buildings and operations. This approach will complete 20 efficiency projects through these Regional teams in FY 1996.

FEMP is working with the Office of Management and Budget to issue a Federal Procurement Challenge -- a voluntary, government-wide commitment to simplify the problem faced by facility managers in selecting the most efficient technologies. In addition, the program will expand markets for energy efficient and water-conserving products; create new markets for high-efficiency technologies; and reduce energy use and pollution. FEMP is partnering with the General Services Administration, the Department of Defense, the National Institute of Standards and Technology, and the Environmental Protection Agency. Also, through bulk purchases, the cost to government goes down.

Question: How successful are agencies in meeting the requirements for energy savings?

Answer: Since 1985 agencies have returned almost \$3 billion in avoided costs and utility bills that the government will not have to pay. There is, however, more that can be done. We estimate as much as \$1 billion a year can be achieved when our work is at full speed if all agencies implemented the EAct and Executive Order 12902 energy reduction goals. Agencies are making steady progress to the 20% goal required by EAct. For example, ten agencies have already achieved the 10% reduction goal for FY 1995 in 1994, the most recent reporting period.

Congress required agencies to implement all projects with a ten-year payback or better to be completed by 2005. With full deployment of our program, that can be achieved. I am confident that technology will continue to improve and there may be new energy savings opportunities beyond that year.

Question: What are the measures that are used to determine the success of agencies in meeting the energy savings requirements?

Answer: Agencies report annually in BTUs per gross square foot. They also report progress with other indicators through the Annual Report to Congress. Although agencies perform self-checks to validate their reported energy savings, FEMP also performs several low cost evaluations to track energy efficiency successes. These include spot checks on the data reported by each agency to examine sudden changes in energy use and evaluation of nominations for the annual FEMP energy efficiency and water conservation awards to examine the claimed successes against established criteria for savings achieved. Open discussions with agency energy managers throughout the year also help FEMP identify agency progress and problems associated with meeting the EACT and Executive Order 12902 savings requirements. In addition, as agencies seek technical and financial assistance from FEMP and its various resources, staff reviews the agencies' proposals and projects for accuracy and savings potential.

Question: The FY 1996 request includes \$12,210,000 for technical guidance and assistance, an increase of approximately \$1.5 million, or about 14 percent, above the FY 1995 level. Within the overall funding, \$1,969,000 has been requested to initiate and expand innovative financing activities. What specific activities will be funded through the innovative financing initiatives and what are the associated funding levels?

Answer: Innovative financing sources of funding for energy efficiency include non-Federal sources such as utility incentives and third party financing utilizing Energy Savings Performance Contracts (ESPC). FEMP is committed to maximizing non-Federal financing by training and assisting agencies with the implementation of such programs. Specific activities to support this initiative are: 1) Train agency teams on the ESPC implementation process including technical and contracting related issues, 2) Assist agencies with the identification of ESPC opportunities and validation of economic feasibility, 3) Support agencies with evaluations of performance measurement and verification of savings achieved via ESPCs, 4) Develop partnerships with utilities and Energy Service Companies (ESCOs) to facilitate a greater number of innovative financing projects in the Federal government.

Question: What specific alternative financing mechanisms are being considered?

Answer: In addition to ESPC, partnerships have also been developed with utilities to tap their Demand Side Management incentives in a way similar to the Forrestal Building lighting project which had both a rebate and Energy Service Company (ESCO) investment. There is a new development with utilities wanting to finance projects with their Federal customers and we are exploring other developments with that. The most prominent among these is Southern California Edison's ENVEST program that has written contracts with half a dozen Federal facilities investing more than \$10 million. In this new competitive utility environment, FEMP is actively pursuing effective partnerships through a Federal-Utility Partnership group of eighteen large utilities. Partnerships are also being developed with companies such as Carrier and American Standard who want to finance projects at Federal sites. We are exploring other approaches to utilize private sector investments in Federal energy projects.

Question: What alternative financing projects have been sponsored to date? What has been DOE's experience with alternative financing?

Answer: Utility incentives offer one source of project funding. With FEMP's leadership, as much as \$400 million may be invested by local utilities. Utilities recognize the demand reduction potential they can accomplish in conjunction with FEMP leadership. More than eighteen major utilities are active partners in the Federal Utility Partnership.

In addition, 27 ESP contracts have been signed between the private sector and the Departments of: Defense, Energy, Veterans Affairs, the United States Postal Service, GSA, and NASA. The private sector investment level in these projects has varied from \$100,000 to \$18 million at Fort Polk, LA where ground source coupled heat pumps will be installed in 4003 housing units. In addition to energy savings, private sector financing of energy efficiency in Federal facilities has augmented appropriated funds to help reduce the cost of facilities operations and maintenance, increase the investment in new technologies and replacement of aging equipment and accelerate compliance with environmental mandates for the reduction of CFC found in chillers as well as removal of PCB found in fluorescent lighting ballasts.

To date, DOE has entered into two third party financed projects at DOE's Forrestal headquarters and Lawrence Berkeley Laboratory.

FEMP's experience is that, although these early efforts have been difficult to achieve, future projects should become easier due to FEMP's model solicitation training, "How to" guide and direct technical assistance which offers step-by-step support. Other actions will make ESPC even more readily available to facility managers.

Question: Does DOE require any additional authorities in order to implement the programs it is proposing?

Answer: Currently FEMP is working on proposing several technical amendments to existing legislation to enable agencies to better implement these programs by allowing them more flexibility in developing those projects which will reduce their energy consumption. These amendments include: providing for expanded incentives for energy managers to develop and implement energy efficiency and water conservation programs; including water conservation projects under energy savings performance contracts; and expanding the program into new areas of energy efficiency and water conservation, such as projects in leased facilities, direct negotiation with energy service companies competitively selected and approved by utilities serving the agency and a lifting of the restriction of the sales of excess electrical power from government power plants to off-site customers, and inclusion of mobility (aircraft, ships, and vehicles) energy conservation under energy savings performance contracting authority.

Question: In FY 1996, \$1,389,000 is requested for the Federal facility test bed program, which is an increase of approximately \$391,000 above the FY 1995 level. In FY 1995, DOE plans to initiate new technology demonstrations in six promising technologies. In FY 1996, DOE plans to provide "key National Energy Laboratories with resources to identify technologies that are commercially available but not in widespread use in Federal facilities." What technology demonstrations are being supported in FY 1995?

Answer: Technologies are determined in one of two ways. First, a technology new to the commercial market is demonstrated by installing it at a federal site, monitoring its performance, and evaluating the results. Second, for technologies commercially available but not widely applied in the federal sector, existing performance data are presented in a new information transfer document developed by the program, the Federal Technology Alert (FTA). The benefits to developing FTAs include a much faster rate of information transfer and greatly reduced evaluation costs. Technology demonstration activities in FY 1995 are summarized below:

- Four technology demonstrations will be completed in FY 1995: natural gas engine driven rooftop air conditioner, natural gas engine driven reciprocating split-system air conditioner, natural gas engine driven heat pump, and conversion of domestic water heaters from electric power to natural gas.
- 10 additional technology demonstrations have been initiated in FY 1995 and will require funding in FY 1996: Turbofire XL industrial steam boiler, desiccant air conditioning, Dinht heat pipe, HVAC coil cleaning, electrochromatic smart windows, Temp-Coat insulated liquid coating, LED Optics exit sign, full spectrum polarized lighting, advanced lighting controls, and rooftop ice storage systems.
- 12 FTAs are currently in development and will be completed in FY 1995: Liquid refrigerant pumping (published in 12/94), hydronic boiler/water heater, commercial heat pump water heaters, commercial building ground source heat pumps, residential heat pump water heaters, air conditioning sub-cooling, air conditioning refrigerant oil additives, energy management controls, cooling tower water ozonation, natural gas fuel cells, solar water heating, and photovoltaics.
- Two FTAs have been initiated in FY 1995 and will require funding in FY 1996: passive solar design and solar ventilation.

Question: Will these demonstrations require additional funding in FY 1996? If so, at what level?

Answer: Yes, additional funding in FY 1996 is required to complete demonstrations initiated in FY 1995, complete two FTAs started in FY 1995, and develop 9-12 additional FTAs for technologies identified through the program's solicitation and technology ranking processes. Funding required to continue these projects in FY 1996 is \$1,389,000.

Question: Why will DOE national labs be provided with resources in FY 1996 to identify technologies for use in Federal facilities?

Answer: The participating national laboratories have developed a technology screening process in which industry-suggested technologies are assessed for their aggregate potential to benefit the federal building stock. FEMP's customers recognize the expertise of the national laboratories and view them as a source of credible information on technologies, when compared to potentially biased manufacturer projections regarding innovative technology. Federal energy managers have indicated that independent, unbiased evaluations are essential for federal sites to buy into new, innovative technologies.

Question: Is this information available through sources other than the national laboratories?

Answer: The capability to assess the potential energy cost savings of specific technologies if applied throughout the existing federal building stock does not currently exist except at our national laboratories. That methodology was developed in conjunction with the Facilities Energy Decision Screening (FEDS) process and has been used to assess the potential impact of new technologies on federal facilities.

Question: How much funding is expected to be provided to the national laboratories?

Answer: \$1,389,000 pays for the national laboratories' participation. In turn, these funds are leveraged with funding from the private sector organizations that participate in the demonstrations: manufacturers, utilities, trade associations and research institutes. We expect to achieve no less than a 50 percent contribution in the form of equipment and in-kind services from the participating non-federal organizations for all of the demonstrations conducted. In addition, we expect assistance from manufacturers and their trade associations in funding printing and distribution of the FTAs.

Question: In FY 1996, \$2,186,000 is requested for audit teams and agency action plans. As part of this effort, DOE plans to conduct specialized surveys through the national laboratories and DOE support offices in technologies not available through other private consulting firms. What level of funding will support these specialized surveys? How much of the funding will go towards overhead for the national laboratories and DOE support offices?

Answer: In FY 1994 a solicitation was issued and awarded by FEMP to twenty (20) small businesses, awarding them Blanket Purchase Agreements to conduct energy and water audits of Federal buildings nationwide. At the inception of SAVEnergy, a few awards were made to 8(a) contractors and State Energy Offices (Washington and Oregon) to conduct pilot audits prior to the national procurement. A few audits were conducted by national laboratories where there was a need for technical expertise found in those labs. To date, approximately 64% of the audits have been conducted by the private sector firms, while 8(a) contractors have done 26%, national laboratories 8%, and State Energy Offices 2%. We fully expect the bulk of the audits to be conducted by the private sector in FY 96 (80%) with few being done by national laboratories (5%). The majority of the funding for SAVEnergy is sent to the Golden Field Office for contracting with the private sector audit firms under the Blanket Purchasing Agreement. Project Management support is conducted at present from a national laboratory, with a goal of fully deploying the program to the field by the end of FY 1996.

Question: In FY 1996, \$2,037,000 is requested for design assistance activities. According to the justifications (page 315), DOE plans to work with utilities to encourage cooperation between utility design assistance programs and the Federal design process. What design assistance is currently available from utilities?

Answer: Some utilities currently provide design assistance as part of their declining Demand Side Management programs. FEMP has worked successfully linking these services with Federal needs on projects including building energy simulations done by Con Ed in New York and Southern California Edison's turnkey ENVEST program used at the Chet Hollifield Federal Building in Laguna Niquel, CA. Hawaiian Electric provides Design Assistance for commercial water heating

heat pumps, and their assistance will be used in developing the auxiliary heating system for the hybrid chiller heat recovery and solar water heating system now being considered. Federal planning and construction time lines often exceed the standard times offered by the utilities so custom negotiations are sometimes required.

Question: How does this assistance differ from the assistance proposed through Climate Change Action Plan programs?

Answer: FEMP Design Assistance is targeted to the market niche of Federal customers and meets their unique needs such as Life Cycle Costing in accordance with 10 CAR 436.

"COOL COMMUNITIES"

Question: In FY 1996, \$2,190,000 is requested to initiate the "Cool Communities" program with EPA, the Forest Service, the Department of Defense, and utilities to expand "heat island" field projects. In FY 1995, funding was requested for this program, but Congress did not fund the program due to funding constraints. Is the program requested in FY 1996 any different than the program which was requested in FY 1995?

Answer: Although the Cool Communities approach has not changed, the program requested in FY 1996 would provide more benefits and satisfy an increasing level of interest in the program than were anticipated in FY 1995. Urban heat island research and continuing activity in the seven model communities are yielding information in support of expanding the program. Lawrence Berkeley Laboratory is reporting that air quality improvements would result from using light colored surfaces and urban forestry to reduce urban temperature. Computer models are showing that reducing temperature by a few degrees would reduce smog formation to a point where some U.S. cities currently out of air quality compliance would come into compliance. This air quality improvement from Cool Communities deployment is extremely cost effective when compared to other air quality strategies such as converting to electric vehicles. Also, the projected energy efficiency, cost savings, and other environmental improvements in the FY 1995 funding request are still achievable with the FY 1996 request.

During FY 1995 the level of interest in Cool Communities increased significantly. About 15 cities, at least two state energy offices, 10 Federal installations, 15 electric utilities and five private product manufacturing companies are expressing keen interest in the Cool Communities approach as a result of accumulating information on urban heat islands, publicity from the model cities already participating, various EPACT compliance programs, and related initiatives including the Climate Challenge and Rebuild America.

Question: What level of funding will EPA, the Forest Service and DOD provide for the program? Was any funding provided by these agencies in FY 1995?

Answer: The level of FY 1996 funding from other agencies in support of Cool Communities is uncertain, support would logically be a high priority among EPA, DOD, the Forest Service, and other Federal agencies because of the high benefit to cost ratio. Congressional appropriations to these other agencies would be complemented by this DOE appropriation that is needed to lead development of Federal partner participation.

In FY 1995, the Forest Service provided approximately \$210,000 in direct research on energy savings from urban forestry and Cool Communities demonstration monitoring. EPA provided approximately \$400,000 on urban heat island research and mitigation demonstrations in direct support of Cool Communities. DOD provided \$165,000 in Legacy funds to support phase II of the Davis Monthan Air Force Base Cool Communities demonstration. Indirect support is also significant as is the potential for increasing direct support particularly from Federal agencies with facilities and installations needing energy efficiency improvements. The Forest Service, for example, indirectly supports Cool Communities goals with urban forestry assistance, educational materials, insect and disease control on forest trees, related forestry and climate related research activities, and other forestry work. Continued interest from other agencies is anticipated.

COMMERCIAL BUILDINGS OPERATORS TRAINING

Question: In FY 1996, \$2,487,000 is requested to develop training on operation and maintenance for operators in existing commercial buildings. The program will be coordinated with the Federal Energy Management Program and State energy offices. The program is to be developed with professional and trade organizations. What are the specific activities to be funded and the associated funding levels?

Answer: The Department's funding will be used to develop training curricula and materials on best operation and training practices (\$1,492,000), conduct train-the-trainer seminars (\$498,000), update continuing education certification programs (\$372,000), and create recognition programs (\$125,000). All these activities will be designed and cost-shared with national professional and trade organizations, and the International Union of Operating Engineers. Early in FY 1996, a workshop will be held with industry to finalize the content of the program and to reach a consensus on roles between DOE and its partners. The state energy offices as well as utilities will be used as avenues to replicate successful programs. After FY 1997, when the materials and training programs are in place in the private sector training infrastructure, the Department's involvement will be discontinued.

Question: Will additional training be provided to Federal building operators on building operations and maintenance?

Answer: Additional training will not be provided to Federal building operators through this project; the curriculum and materials developed from this program will be made available to the Federal Energy Management Program for use in the training of Federal building operators.

Question: Why is it necessary to have Federal funding for this program, especially when professional and trade associations already provide training?

Answer: The Department estimates that 15 percent of the energy consumed in commercial buildings could be reduced through more efficient operation of building systems - without major capital investment. DOE/industry workshops in the past year identified building operator training as the highest priority to reach the energy and cost-savings potential. Representatives of WalMart, Marriott, Kaiser, International Facilities Managers Association, Association of Higher Education Facilities Officers, U. S. Postal Service, and several large property management firms have attended these workshops.

Although today's building operators have basic skills to operate building systems, many lack the knowledge, tools, training, and incentives to operate them at the highest efficiency and lowest cost. For example, building operators often adjust the control of heating and cooling systems in reaction to occupant complaints. Control adjustment and other unscheduled system operation can dramatically increase the energy consumption and cost. With targeted training programs, operators can learn methods to anticipate problems before they develop so that systems can be operated at lowest cost, but still meet occupant requirements. Training in efficient operation and maintenance gives the operators the necessary tools to increase the building's efficiency while maintaining healthy, comfortable indoor environments.

"INDUSTRIES OF THE FUTURE"

Question: How are the "Industries of the Future" program plans developed?

Answer: The Industries of the Future are not "programs," nor are "program plans" developed. Instead, it is a strategy - a new approach to the development of industrial technology. The program aligns Federal investments in technology research, development, and deployment with the needs and expectations of technology users in the private sector. The Industries of the Future approach will build on DOE's history of partnering with several industries to further design and fund resource efficient advances in each industry's production processes. The Industries of the Future approach optimizes the complementary strengths of industry and government. Industry participants create a

vision that reflects the dynamic impact of market, business, social, and regulatory drivers in their industry. The vision is developed by industry, for industry, and provides a framework for shaping major advancements in technology. DOE facilitates that process, then draws from the vision's menu of possibilities to shape a portfolio of research and development activities. DOE works with other Federal agencies, with projects in these same industries, to provide a broad-based coordination of funding support. All technology development projects involve some industry cost sharing, both to ensure industry's commitment to the technologies selected and to enhance the probability of subsequent commercialization.

The present focus of the Industries of the Future strategy is on the seven industries that account for more than 80 percent of the energy consumed in manufacturing, and for more than 90 percent of the wastes generated. The seven industries are the aluminum, chemical, forest products, glass, metal casting, petroleum refining and steel industries.

Question: What is the process for obtaining industry input into these programs?

Answer: As briefly mentioned in the previous question, industry (individual companies and trade associations) creates a vision for their entire industry sector which represents a desired future state for that industry. Then, a Technology Roadmap is developed which details the technologies which must be advanced in order to achieve the vision. Using this list, DOE coordinates with other agencies and other parts of DOE to link existing programs to those in the Roadmap. The direct response to this question is that industry develops the elements that are the important input for these programs. This is contrasted with some programs where government establishes the research agenda then seeks technology transfer opportunities for commercialization with interested parties.

Question: After input is obtained from industry, how are various industry viewpoints incorporated into a single "Industry of the Future" program plan?

Answer: As noted above, there is no program plan per se for the Industries of the Future, because it is a process of working with industry, as opposed to a program established by government. The documents which are produced, however, are the Visions created by each of the seven process industries, and the Technology Roadmaps of how to achieve the vision. The type of program plans which have historically been prepared will likely not be used in the future. With industry's Visions providing the focus on what technological advances are needed, the R&D performed by the Office of Industrial Technologies will not be guided by individual programs based on a program plan.

SUPPORT FOR AMERICAN-OWNED FIRMS

Question: How does DOE determine whether or not a firm is considered to be American-owned in order to participate in DOE programs?

Answer: Section 2306 of the Energy Policy Act of 1992 restricts financial assistance to companies to those that are either U.S.-owned, or those which are incorporated in the U.S. but have a parent company from another country wherein that country affords U.S.-owned companies most of the investment opportunities and protection of intellectual property rights as we do here in the U.S. The Department requires any cooperative agreement or contract with a company that falls into the second category (i.e., they have a parent company in another country) be reviewed by DOE Headquarters procurement to ensure that Section 2306 is met.

ADVANCED TURBINE SYSTEMS

Question: In FY 1996, \$16,340,000 is requested in support of the joint Advanced Turbine Systems program with Fossil Energy. This represents an increase of approximately \$6.7 million, or about 69 percent, above the current FY 1995 program. In FY 1995, the program provides funding to more than 30 subcontractors and supports a university-based technology program. What is the university-based technology program? What are the goals of the program?

Answer: Much of the basic R&D needed in the Advanced Turbine Systems program will be performed by a consortium managed in cooperation with the South Carolina Energy Research and Development Center. Six industry firms and 78 universities in 38 states are members of the Consortium. Industrial cosponsors identify critical technology needs and assist in evaluating the proposals made by the participating universities. Thirty-two contracts have been awarded to date.

Question: Is there any funding for the university base technology program in FY 1996?

Answer: Funding in FY 1996 is requested at a level of \$4.5 million. EERE contributes \$50,000 and FE contributes the balance. Funding requests are planned to remain at this level for the remainder of the program.

Question: What specific activities are funded in FY 1995 and what are the FY 1996 funding levels for these same activities?

Answer: Fiscal year 1995 is the first year of a five year funding plan which supports the main elements of the ATS Program as it enters Phase III. Phase I conducted scoping studies and Phase II entailed detailed engineering studies of cycle and engine system improvements. Phase IV is the demonstration phase. The largest portion of Phase III is the design and development of the core ATS engine. This effort involves tens of thousands of man-hours to design, build, test, optimize and integrate the engine components and subsystems. The second largest element is the development of materials technology, namely thermal barrier coatings (TBCs) and single-crystal turbine blade casting. These programs involve, in part, the adaptation of military, aero-engine technology to land-based engines, and are crucial enabling technologies for high efficiency engines.

Question: What new activities will be initiated in FY 1996 with the expanded level of funding?

Answer: No new activities will be initiated in FY 1996. FY 1996 funds will be used to continue the Phase III ATS activities and the materials technology work started mid-FY 1995. The engine development work of Phase III involves tens of thousands of man-hours and substantial material and equipment for subsystem prototype testing and evaluation. The material technology work begun in FY 1995 also reaches full stride in FY 1996.

CONTINUOUS FIBER CERAMIC COMPOSITES

Question: In FY 1996, \$6,948,000 is requested for the Continuous Fiber Ceramic Composites program, which represents a reduction of approximately \$2.1 million, or about 23 percent, from the FY 1995 level. What is the basis for reducing funding for this program?

Answer: Although the Continuous Fiber Ceramic Composites (CFCC) program is a high priority for the Office of Industrial Technologies, is critical to the success of several other DOE activities, and will be useful in multiple industrial applications, reduced funding was requested in order that other priority programs in the office could also be funded. These programs include those that directly support the industry visions strategy which the office is implementing. The CFCC program is still one of the top priorities for the office, and this reduction in funding will not change the overall scope of work for the program, but will extend the length of time for some CFCC applications to reach commercialization.

Question: What has the program accomplished to date?

Answer: There have been numerous program accomplishments to date because of the wide array of industries/applications that CFCCs can be used for. Some of these accomplishments include:

- fabrication and successful demonstration of CFCC test sample for self-lubricating exhaust valve guides in diesel engines which will increase efficiency;

- fabrication of CFCC screens for low- NO_x radiant burners which will double the radiant output from porous surface burners used in drying applications;
- processing steps for alumina and zirconia matrix CFCCs, with potential applications in boilers, gas turbines, and heat exchangers, was reduced by 50% which decreases fabrication costs significantly; successful demonstration of the ability of CFCCs to sustain high strength and tough behavior at elevated temperatures;
- demonstration of CFCCs with thousands-of-hours of life at 1200°C at 12,000 lbs per square inch;
- development of highly permeable CFCC plates and tubes for near term commercialization of hot gas filters and porous radiant burners;
- establishment of technical feasibility for use of CFCC as turbine shrouds and combustors, using CFCCs for these components would produce a significant reduction in fuel consumption;
- demonstration of filter concepts that meet flow and pressure drop requirements of candle filter applications; and
- identification of CFCC components that would increase the power generation efficiency of a coal-fired power plant from 35 percent to 47 percent with a 25 percent reduction in emissions.

In addition, because of the support to the core area of material development, numerous other partially funded or non-Federally funded activities necessary for the use of these materials in industry have been initiated, including testing standards development at ASTM and development initiation of ASME standards for CFCC component use in industry.

Question: Has the program met its goals and objectives, as well as the cost-sharing requirements?

Answer: The CFCC program has continued to meet the program goals and objectives, and as more applications for CFCCs have been identified, those goals have expanded. Should funding decrease as proposed, the time to complete program goals will take longer and milestone dates will have to be modified to reflect the slower research pace. The overall industry cost-share is expected to be 35%.

MOTOR CHALLENGE

Question: In FY 1996, \$5,648,000 is requested in support of the Motor Challenge program of the Climate Change Action Plan. The request represents an increase of approximately \$2.6 million above the FY 1995 level. According to the budget justifications (page 351), deployment activities will be continued through regional collaborative and education and training workshops to deliver program resources to industrial end-users. How effective are education and training workshops in assisting in deploying new technologies?

Answer: Comprehensive education and training are a key element of the Motor Challenge program to assist in transforming the motor systems market to greater energy efficiency, and to encourage end-users to adopt more efficient (not necessarily new) technologies. Because end-users are the most important decision-makers in the adoption of more energy-efficient motor-driven systems, industry has repeatedly emphasized the need for the Motor Challenge program to support, develop, and then deliver to end-users, education and training programs, information, and tools in conjunction with its Partners.

The efficiency of motor-driven systems derives not only from the efficiency of individual components (e.g., motors, pumps, processes), but more important, from the integration of these components into an operating system. The greater energy efficiency opportunities are found in the optimal system integration of components, rather than the selection of individual components.

Substantial improvement opportunities can be uncovered, therefore, when the design, control, and operations and maintenance of the driven equipment (i.e., fans, blowers, pumps, and compressors) are examined along with motors and drives.

Because the "systems-related" energy efficiency opportunities are so enormous and dominant, a comprehensive and extensive training program is critical so that end-users will be made aware of the latest techniques, approaches, tools and information that are available to assist them in capturing these opportunities. The majority of end-users today lack the basic information and tools to properly assess and then implement system-integrated motor-driven systems. Accordingly, industry (users, suppliers, and utilities) has said that an appropriate role for the Motor Challenge program is to support such a training program. DOE will work in collaboration and leverage resources wherever possible with its allied partners (e.g., suppliers, distributors, utilities and corporate end-user energy management staff) to deliver a training program to end-user plant engineering and maintenance staff. Training will be a key enabling activity within the market transformation strategies to be deployed in FY 1996 (see below).

Question: How does DOE determine the effectiveness of its education and training workshops?

Answer: Program evaluation and effectiveness assessment are important factors to the success of the Motor Challenge program, along with program implementation and execution. Two levels of effectiveness will be assessed: 1) the value of the training courses themselves, and 2) the impact that training has on industry's adoption of efficient motor systems.

With regard to the first level of evaluation of the training, DOE will continually monitor metrics such as the number of workshops held, attendance, and industry's evaluation of the courses. In fact, DOE has already sponsored a pilot training course on performance optimization service (POS) this past February where 25 Motor Challenge partners participated. (The POS course focuses upon the opportunities of optimizing pump, fan and blower systems in industrial facilities). DOE requested input from Motor Challenge partners on the value of the course. It was judged by the Partners to be very valuable and worthy of further support and enhancement. DOE has made adjustments to the course based on industry's comments.

More important, for the second level of evaluation, as part of an industrial motor systems market assessment that DOE is undertaking, DOE will evaluate the impact that Motor Challenge resources (including tools, information and training) and activities are having on the market and in influencing industry's adoption of efficient motor-driven systems. In addition, all EPA/EPSE programs are planning to undergo an independent, third-party evaluation of their energy savings cost-effectiveness by October 1995.

In addition, the activities of the Showcase Demonstration project teams will complement the DOE training curriculum in that training will be provided to assist the teams on implementation and performance validation concerns.

Question: What specific activities will be funded in FY 1996 and what are the associated funding levels for these activities?

Answer: Funding on Motor Challenge program activities are directed at five program elements:

- 1) Partnership activities (\$1,928,000): Partnership activities include individual partner technical assistance, development and implementation of the Partner Excellence program, communications, regional collaboration and deployment activities.
- Partner technical assistance involves tailored assistance to provide partner organizations easy access of Motor Challenge resources to the partner's facilities or their customers. Some of these resources will be provided free of charge, others resources and products may have costs passed on to the partner (e.g., training curriculum materials).

- The Partner Excellence program will be initiated. This program will recognize companies for their excellence and leadership in the way in which their motor systems are managed, including practices involved with the design, specification, purchase, implementation and maintenance of efficient motor systems. A criteria and selection process will be developed by DOE, with the advice of industry, during early FY 1996 and the initial Excellence Partners will be selected in late FY 1996.
 - Communications will include the development and marketing of materials that will encourage a variety of industry stakeholders and decision-makers to consider various motor system efficiency opportunities. Other communication activities include the writing of technical articles that are placed in key trade magazines; and the planning, marketing and broadcast of the second national Motor Challenge video conference in FY 1996 that will be similar to the 1995 production.
 - The regional collaboratives will be expanded from the Midwest Motor Systems Consortium to 3 other collaboratives. Currently, the Midwest Motor Systems Consortium has engaged market stakeholders in more than 10 Midwestern States to collaborate on initiatives (e.g., training) that assist end-users in implementing efficient motor systems.
 - Regional and national deployment of Motor Challenge resources will be expanded to satisfy the demand of the rapidly growing number of Motor Challenge Partners (now more than 500). Allied Partners (suppliers, distributors, utilities, States) will be supported by the Program to help arrange and facilitate regional workshops and other technology transfer activities.
- 2) Showcase Demonstrations (\$2,820,000): Continued and expanded support for the Showcase Demonstration teams to include: technical assistance, tool and best practice development, team workshops, independent performance validations, and case study development for each project. With as many as 20 Showcase Demonstration projects, the Motor Challenge will help industry achieve as much as 100 million kilowatt-hours per year of electricity savings or about \$4 million.
 - 3) Electric Motor Systems Database (\$300,000): Reporting by industry to the Electric Motor Systems database and "Savings Tracker" will be initiated. Currently industry's interest indicates that once the Database is prototyped within the Showcase Demonstrations, up to 100 plants will report their savings in FY 1996.
 - 4) Information Clearinghouse (\$600,000): Technical assistance and information dissemination through the Information Clearinghouse will be expanded. Up to 5,000 calls to the Motor Challenge Information Clearinghouse will be serviced and processed to provide Partners with information, technical assistance and library research. Information and technical materials will be disseminated to Partners to complement the resources of their internal corporate energy efficiency programs.
 - 5) Development and deployment of market transformation strategies (\$2,300,000): Motor Challenge market transformation strategies are market-based initiatives that aim to increase and accelerate the use of more efficient motor-driven pump, fan, and air compressor systems. Market transformation strategies are intended to integrate and coordinate other activities supported under Motor Challenge (activities as above - see s below to questions on market transformation strategies)

MARKET TRANSFORMATION STRATEGIES

Question: In FY 1996, \$2,300,000 is requested in support of market transformation strategies, which were previously known as the Golden Carrot initiative. The request represents an increase of \$800,000 above the current level. According to the budget justifications (page 352), DOE plans to accelerate the market transformation strategies by implementing a number of demand-pull programs. How do you define "demand-pull" activities?

Answer: In general, "demand-pull" (also called "market-pull") refers to actions in a market delivery system whereby end-users seek out and demand certain products and services from suppliers. End-users actively communicate with suppliers so that the suppliers can develop and deliver products that better suit their needs. In contrast, "market-push" involves market-based actions whereby suppliers take the initiative to "sell" the product to the end-user. In a sense, suppliers try to convince the end-users that they do in fact have a need for the product that they are offering. Both tactics can be used to influence a market.

With regard to the Motor Challenge program, industry has sent us a strong message (re: Market Transformation round table April 18-19, 1995) that end-users sorely need better (e.g., improved reliability, availability, and content) information to capture the multitude of benefits associated with energy efficient motor-driven systems. Although the technology for energy efficient motor-driven systems is generally available, end-users do not always have sufficient information to evaluate alternatives and make the best decisions. In some cases, the information actually exists but end-users are not aware of it and/or do not know how to obtain it in a timely fashion. In other cases, the information is just not there. .

The Motor Challenge program will overcome this formidable barrier through specific "market-pull" initiatives. In essence, these market-pull initiatives will be designed to create sophisticated, demanding end-users by empowering them with current, accurate, and user-friendly tools and information. Thus armed, end-users will be better able to compare alternatives, specify, obtain, operate and maintain more efficient motor-driven systems. To do this, Motor Challenge will work closely with other stakeholders (e.g., Consortium for Energy Efficiency, manufacturers, suppliers, and trade associations) to leverage resources and develop complementary initiatives. The focus of the FY 1996 market transformation initiatives will be directed to the pump, fan and compressor market segments.

Question: What has been accomplished to date with the \$1.5 million provided in FY 1995 for the Golden Carrot initiative?

Answer: Under the market transformation strategies, formerly called "Golden Carrot," Motor Challenge has accomplished the following in FY 1995.

- 1) Funded and completed (Easton Consultants) market research on the electric motor-driven systems original equipment manufacturers (OEM) markets. This research has helped DOE and stakeholders better understand the complex market dynamics, sub-markets, key issues and players, leverage points for change, and energy savings potential.
- 2) Funded and completed (ACEEE) a market transformation analysis to develop a range of strategic options that would assist in transforming the motor-driven systems market.
- 3) Conducted a Market Transformation Round table (April 1995) with 50 participants from industry. At the Round table, Motor Challenge (in conjunction with CEE, ACEEE, and Easton Consultants) presented the results of the above research and analysis to solicit feedback from the stakeholders.
- 4) Funded the development of Motor master+, a decision-making tool to help end-users when purchasing and/or repairing industrial motors. Motor master+ is an enhanced version of Motor master with added features such as batch processing, energy savings tracking capability, and a more comprehensive motor database.
- 5) Funded (Resource Dynamics Corporation) and partially completed (90%) the development of a motor systems management training course. Motor Challenge will roll-out the course in June with a pilot session.
- 6) CEE Motor Systems Committee. Supported the development of a cooperative agreement for market transformation in the motor systems markets through leveraged resources with the utility industry.

Question: What specific activities will be funded in FY 1996 and what are the associated funding levels?

Answer: The market transformation activities shown below for FY 1996 are largely a result of the above market research, strategic planning, and collaboration with industry. These strategies seek to accelerate the widespread adoption of energy-efficient motor-driven systems primarily through market-pull initiatives. To do this, the strategies must also shift the market focus from individual components (e.g., motors) to a total system performance perspective.

Market transformation strategies fall into two categories - enabling and direct market action. Enabling actions prepare the market for change (e.g., performance specifications) while direct market actions influence the behavior of the market in a more immediate fashion (e.g., utility rebates).

Enabling Actions:

- 1) Motor Systems Specifiers Guide (\$550,000): Motor Challenge will work with industry and the major trade associations (e.g., Hydraulic Institute, National Electrical Manufacturers Association, Compressed Air and Gas Institute, Electrical Apparatus and Services Association) to develop a guide that will help end-users improve their decision-making in selecting energy-efficient motor-driven systems. The Guide will use the "systems approach" to focus on the three market segments that represent the greatest opportunity (pumps, fans/blowers, and air compressors) for energy savings.
- 2) Energy Performance Standard for Air Compressors (\$250,000): Motor Challenge plans to work with CAGI as well as the Canadian organizations for setting standards to develop and promote a common standard throughout North America for measuring the performance of air compressors.
- 3) Decision Making Tools (\$500,000): Motor Challenge will continue to support the development of improved decision-making tools for the purchase/repair of motors (e.g., Motor master+). Motor Challenge also plans to initiate the development of computer-based tools that will allow better comparison of major motor-driven equipment (i.e., fans, blowers, air compressors, and pumps).
- 4) Education and Training (\$550,000): In a manner similar to the Motor Systems Specifiers Guide above, Motor Challenge will work with stakeholders to develop and deliver training on: motor systems management, performance optimization of motor-driven systems, industrial motor repair/replace decision-making, and energy-efficient pump systems.
- 5) Consortium for Energy Efficiency (\$150,000): Continue to support the cooperative agreement for market transformation delivery strategies.

Direct Market Actions:

- 1) Buyer Group Initiatives (\$300,000): As a result of the Market Transformation Round table, Motor Challenge will work with stakeholders to support and encourage industry-specific (e.g., textile industry) partnerships among end-users, manufacturers, distributors, engineering consultants, and other stakeholders. The purpose is to break down barriers between among stakeholders with common interests and needs. In doing so, the Initiatives will expose potential energy savings in motor systems as well as new business opportunities while reaping the benefits of energy-efficient motor-driven systems.

NICE¹ PROGRAM

Question: In FY 1996, a total of \$8,500,000 is requested in support of the National Industrial Competitiveness through Energy, Environment, and Economics (NICE¹), which is an increase of \$2.5 million above the FY 1995 level. Within the request, \$3 million is for the base program, and

\$5.5 million represents an expansion of the program through the Climate Change Action Plan. How many States are represented currently in the NICE³ program?

Answer: The following 14 States are participating in the FY 1995 NICE³ program: Arizona, California, Colorado, Delaware, Georgia, Illinois, Indiana, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio and Oregon.

All States and territories are eligible to participate. To date, 43 States have submitted proposals. The following 21 states have received NICE³ grants: Arizona (1), California (9), Colorado (1), Connecticut (1), Delaware (2), Georgia (2), Illinois (1), Indiana (1), Maryland (2), Massachusetts (1), Michigan (2), Minnesota (1), New Jersey (1), New York (1), North Carolina (2), Ohio (7), Oregon (4), Texas (1), Virginia (1), Washington (2), Wisconsin (1).

Question: How many more States will be represented by grants in FY 1996?

Answer: We are projecting three to six new States will receive NICE³ grants in FY 1996. We are also expecting one or two States to submit proposals for the first time.

This year Minnesota, Wisconsin, Virginia, and North Carolina received NICE³ awards for the first time. NICE³ is a very competitive national solicitation targeted to industry through State Agencies. This year only 17 out of 164 proposals were funded.

METALS INITIATIVE

Question: As part of the Metals Initiative, \$1,650,000 is requested to design and begin installation of the first 200,000 ton per year module to dezin steel scrap. What is the level of cost sharing to be provided by industry for the first module?

Answer: Industry will provide a minimum of 50% of the total cost of the module.

Question: What is the outyear plan for this program?

Answer: The estimate of funds required for fiscal years 1997 and 1998 are \$2,100,000 and \$1,000,000, respectively. These will provide DOE's 50% cost sharing to complete the installation of the demonstration module, one year of operation, and further product and process development activities to be performed by industry and Argonne National Laboratory. These activities are as follows:

Enhancements to the zinc electrowinning cell.

Zinc recycling and product development with Noranda Corporation (a zinc smelter).

Copper removal from scrap.

The entire project is scheduled to be completed by the third quarter of FY 1998. If the demonstration is successful, commercialization will begin immediately by adding duplicate modules to increase the plant's capacity to (approximately) 600,000 tons per year. DOE will not cost share in this expansion.

ALUMINUM SPRAY FORMING

Question: As part of the Industry Sector's support for the Partnership for a New Generation of Vehicles, the budget request includes \$2,500,000 for construction of a pilot plant for the aluminum spray forming program. What is the level of cost-sharing to be provided by industry for this program?

Answer: In accordance with the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988, the Aluminum Company of America (Alcoa) and their industry subcontractors will contribute 30% of the total costs for the Aluminum Spray Forming program in cash contributions (DOE \$2,500,000; Industry \$1,071,430). In addition, the Alcoa Technical

Center, Corporate Alcoa and the company's technology-related Business Units have committed existing facilities and equipment to support the program at no cost.

Question: What portion of the program remains to be funded after FY 1996?

Answer: The program funding history and outyear mortgages are summarized in the following table.

Funding by Fiscal Year (\$000)

	<u>FY 1993</u>	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>Total</u>
DOE	2,121	976	898	2,500	4,700	1,800	660	13,655
Alcoa	545	782	384	1,071	2,012	770	282	5,846
Program	2,666	1,758	1,282	3,571	6,712	2,570	942	19,501

Approximately 52% of the program (\$7,160,00) remains to be funded after FY 1996 to complete the pilot-scale tests designed to demonstrate aluminum spray forming is a superior process compared to conventional ingot casting-hot rolling for the production of automotive aluminum sheet and plate materials. The process advantages include the production of advanced products with reduced energy requirements, lower cost, improved product characteristics, and increased use of recycled aluminum.

Due to budgetary constraints in fiscal year 1995 and 1996, the purchase and installation of the majority of the support equipment will have to be delayed for fiscal year 1997 funding. The original April 1999, completion date for this project will be delayed by approximately one year, provided there are no further reductions in project funding.

RAPID GLASS REFINER

Question: In FY 1996, the budget includes no funding for the rapid glass refiner project, but the budget justifications (page 387) state that DOE will continue to work with the glass industry in response to the glass "Industry of the Future," using prior year funds. What is the expected level of funding for FY 1996?

Answer: The rapid glass refiner project was terminated due to a lack of industry support. The remaining FY 1995 project funds were utilized to conduct a glass industry R&D solicitation in support of the glass "Industry of the Future" strategy.

Question: What level of prior year funds exist for this project?

Answer: When this project was canceled in FY 1995, \$2,000,000 of unspent project funds were used to support the glass industry solicitation.

Question: Is any funding expected to remain unobligated at the end of FY 1996?

Answer: No funds are expected to remain unobligated at the end of FY 1996.

Question: What future funding will be required for this project?

Answer: No future funding will be required for the rapid glass refiner project.

PETROLEUM INDUSTRY SUPPORT

Question: In FY 1996, \$2,000,000 is requested to initiate and complete Phase I of a multi phase program for development of an advanced fluid catalytic cracker (FCC) to assist the petroleum industry. How many phases are envisioned for the program and what is the funding level for each phase?

Answer: The Advanced Fluid Catalytic Cracker (FCC) program is a two-phase program. The program consists of computer modeling work as well as experimental efforts. In Phase I, a 3-dimensional (3D) computational model for simulating cracking kinetics will be developed. Cracking kinetics data will also be obtained from a Chevron pilot-scale FCC test facility that will be modified to allow data acquisition in an operating range unexplored before. The cracking kinetics model will be integrated with the existing 3-D Computational Fluid Mechanics (CFD) code at ANL to produce an FCC riser model. The riser model will be validated with additional data to be taken from the pilot facility and from a Chevron 1-bbl/day FCC unit. At the conclusion of Phase I, this unit will be contributed to ANL where it will be used for further Advanced FCC development and testing. The budget required for Phase I work is \$2,100,000.

In FY 1997, Phase II of the project would be initiated with the implementation of a second CRADA between ANL, Chevron, and Universal Oil Products. The Phase II effort will focus on validation of the FCC riser model developed in Phase I and on developing an overall FCC system model that can be used to modify FCC design and operating parameters to improve overall efficiency, reduce discharge of gaseous pollutants, and tailor the product yields to desired output. The industrial partners will provide data on critical FCC riser performance parameters derived from full-scale FCC operating units for validating the FCC riser model. The validated riser model will then be used to conduct performance and sensitivity studies in collaboration with the industrial partners to predict performance improvement that may be realized in an Advanced FCC system. The overall FCC system will then be developed and optimized according to system design and operating parameters. During this period, the pilot-scale FCC test facility contributed by Chevron will be installed at the Laboratory as a user facility to support further development and testing. The budget required to complete Phase II work is \$2,000,000.

Question: How much of the overall funding level provided for Energy Conservation is in support of the petroleum industry?

Answer: Several program areas in the Industrial Sector within Energy Conservation contain tasks that directly support the petroleum industry. These program areas are Processing Heating and Cooling (Combustion Processes, and Industrial Equipment), Industrial Waste (Waste Reduction), and Other Process Efficiency (Process Development, and Bio-processing).

The tasks in the Process Heating and Cooling sub-program that directly support the petroleum industry consist of Combustion processes, and Industrial Combustion Equipment. The research in Combustion Process provides an understanding of the formation of the air toxics which results from the combustion of refinery fuel gas and from natural gas.

An example task in the Industrial Waste program that directly supports the petroleum industry is the "Production of Ethanol from Refining Waste Stream." FY 1996 effort includes the operation of a pilot plant to demonstrate the technical and economical viability of the technology.

In the Other Process Efficiency program, Process Development and Bio-processing are two sub-programs that directly support the petroleum industry. One example task in the Bio-processing sub-program is the Chemical Catalyst Design. The computer model developed can be applied to zeolite catalysts for hydrocracking used in petroleum industry. Another example task in Process Development is the "Development of an Advanced Fluid Catalytic Cracker (FCC) Technology." The computer model developed will assist the petroleum industry to reduce emission, increase thermal efficiency, increase yields of fuels/barrel that is processed while meeting the mandated reformulated gasoline formulas.

The funding level in these program areas represents \$8,597,000 in FY 1995 and \$10,368,000 in FY 1996. In addition, technologies are funded such as high efficient cogeneration and advanced materials, which are of interest to several industries, including refineries.

PULP AND PAPER INDUSTRY

Question: In FY 1996, \$4,478,000 is requested to continue the project to commercialize the impulse drying process for drying of heavy weight grades of paper. No funding was provided in FY 1995 as a result of unobligated balances being available from the previous fiscal year. What remains to be done in order for industry to fully commercialize this technology?

Answer: The efficiency of the impulse drying process is very dependent on the wetness factor of the paper sheet entering the impulse dryer. The lower the wetness factor, the greater the efficiency of the impulse dryer. Methods for reducing the wetness factor of the paper sheet entering the impulse dryer, to obtain maximum benefits from this technology, will be explored. This project has concentrated on the application of impulse drying to heavy weight grades of paper. However, preliminary results are favorable in extending the application of impulse drying to a wider range of paper grades. Other grades of paper will be tested to prove the commercial viability of impulse drying for many paper grades, maximizing the impact and benefits of this technology.

Because of the high risk involved in scaling up this technology to high speed paper machines, industry will only invest the large amount of capital required to commercialize this technology after it has been successfully proved on a high speed pilot machine. This will be the final and most costly step toward commercialization of this technology. Industry will provide a greater than 50% cost share in support of this effort.

UNOBLIGATED BALANCES

Question: What level of unobligated balances are expected to remain at the end of fiscal year 1995 and FY 1996?

Answer: Generally, unobligated balances are expected to very minimal in the Efficiency Programs, in the two to 3 percent range approaching an estimated \$23 million. Actual FY 1995 unobligated carryover funds will be needed for actual program commitments and to provide continuity for ongoing activities, primarily in Buildings, Industry, and Transportation research and development programs.

Question: What is the impact of the rescission bill on the unobligated balances that are expected to be carried into FY 1996?

Answer: The rescission bill is not expected to have any impact on unobligated balances carried into FY 1996. The rescission bill will only impact the unobligated balances if it is not implemented. In this case, there may not be sufficient time remaining in FY 1995 to award and obligate the \$13.7 million proposed for rescission in the Industrial Steel Initiative.

INDUSTRIAL ASSESSMENT CENTERS PROGRAM

Question: In FY 1996, \$8,102,000 is requested in support of the Industrial Assessment Center Program, which has historically been known as the Energy Analysis and Diagnostic Center program. DOE plans to expand the program from the 30 Centers currently supported to a total of 38 Centers. How much in total funding to date has been spent to support these Centers?

Answer: At the close of Fiscal Year 1995 the total Federal expenditure for the program will be \$33,407,000.

Question: What has been accomplished by the program to date?

Answer: The Industrial Assessment Center program recognizes an expansion of the Energy Analysis and Diagnostics Center program to combined energy, waste minimization and productivity assessments. At the close of FY 1995 the program will have completed 6300 audits of which approximately 300 are industrial assessments. Center recommendations implemented by client firms

have generated savings of \$614,000,000, 112 billion Btu, and emissions reductions of 214,000 metric tons of CO₂ carbon equivalent.

Question: How do the audits provided by the Industrial Assessment Centers differ from audits provided through State energy offices, and how are DOE's efforts coordinated with the State Energy offices?

Answer: Audits by State offices vary between states. In some cases State programs have a low budget per site visit employing retired engineering personnel to provide limited reports and recommendations. The Energy Analysis and Diagnostic Center/Industrial Assessment Center programs are an important training vehicle for engineering students. A team of senior or graduate engineering students, directed by engineering faculty, develop advance data for the plant prior to the site visit, spend a full day at the plant and generate a formal report providing specific energy and/or waste minimization recommendations including cost and payback computations. Not all states provide energy, waste and productivity assessments; however, all Centers are instructed to work closely with State offices. Some Centers such as Oregon State University and the University of Massachusetts at Amherst work very closely with their state offices. At some Centers, such as the University of Maine and the University of West Virginia, State program personnel and Center personnel are located in the same facilities and share both space and expertise. Other Centers have limited contact. A specific action to stimulate partnering between Centers and State offices is the collaborative project awards which were initiated this year.

Question: According to the budget justification (page 411), DOE plans to continue to grant awards for collaborative projects among Industrial Assessment Centers, State Offices and local partners. At what overall level were these grants funded in FY 1995?

Answer: The overall level of funding for collaborative projects in FY 1995 is \$300,000. Ten awards of \$30,000 will be made; five awards for projects in the Eastern Industrial Assessment Center Region and five for projects in the Western Industrial Assessment Center Region.

Question: What was the dollar level of individual grants in FY 1995 and what dollar level of individual grants is provided through the requested level in FY 1996? How many awards are expected in FY 1996 and for what total dollar amount?

Answer: The individual award for collaborative Industrial Assessment Center, State office and local partner projects in FY 1995 is \$30,000. Based upon the level of interest in these awards this first year it is planned to make awards in the amount of \$25,000 for a larger number of projects. In FY 1996 funding 20 awards of \$25,000 would be made for a total funding amount of \$500,000.

Question: On what basis will the grants be awarded?

Answer: The collaborative project awards will be made by competitive selection following a solicitation to all Industrial Assessment Centers and State offices.

CLIMATE WISE PROGRAM

Question: As part of the Climate Change Action Plan, \$2,000,000 is requested for FY 1996, which is a reduction of \$1,980,000 from the FY 1995 enacted level. The program is a joint effort with the Environmental Protection Agency. What level of funding being provided by the Environmental Protection Agency in FY 1995 and FY 1996?

Answer: The FY 1996 request of \$2,000,000 to fund the Climate Wise Program represents a level of funding for the program. The FY 1995 appropriation of \$4,000,000 included \$2,000,000 each to fund the Climate Wise and Climate Challenge programs. In FY 1996, the request to fund the Climate Challenge program is being submitted by the Office of Utility Technologies. The Environmental Protection Agency's FY 1995 funding is \$4,000,000. They have requested FY 1996 funding in the amount of \$4,000,000.

Question: What is expected to be accomplished in FY 1995?

Answer: Climate Wise is expected to meet or exceed all of its FY 1995 goals. More than 20 companies are projected to join Climate Wise by the end of the fiscal year. These companies will represent more than 4% of the Nation's total energy use. Their pledges will exceed the Climate Wise goal of 0.5 million metric tons of carbon equivalent.

At this time, twelve companies have joined the Climate Wise program. These companies represent over 3% of U.S. industrial energy use. Their collective commitments are 2-3 million metric tons of carbon reductions, the equivalent of eliminating emissions from about 50 million cars per year. The twelve Climate Wise companies are: DuPont, AT&T, Johnson & Johnson, Quad/Graphics, Georgia-Pacific, Fetzer Vineyards, Lockheed Martin, Weyerhaeuser, GM, Coors Brewing Company, Etta Industries, and Majestic Metals.

Climate Wise companies were jointly recognized by Secretary of Energy Hazel O'Leary and EPA Administrator Carol Browner at the White House conference on Environmental Technologies in December 1994.

\$500,000 in grant awards have been allocated for seven state pilot programs to create programs to encourage local companies to develop energy efficiency/pollution prevention programs. Each pilot will coordinate state energy, pollution prevention, and university resources (Energy Analysis & Diagnostic Centers). In addition, pilots will coordinate economic development, National Laboratories, and other private and public technical resources to assist Climate Wise companies to implement their programs.

Climate Wise has established a partnership with the Small Business Administration to facilitate private sector financing to small and medium size businesses. Cost savings to the companies from implementing energy efficiency will help pay off loans.

Climate Wise has secured technical assistance from National Laboratories and Energy Analysis and Diagnostic Centers/Industrial Assessment Centers, to assist companies to develop their Climate Wise pledges.

On February 1, 1995, Climate Wise held its first Technical Assistance Workshop in Colorado. Lockheed Martin, Kodak, Coors Brewing Company, Hewlett Packard, 3M and Public Service Company of Colorado attended. The immediate result of this meeting was a pledge letter from Coors.

Climate Wise, with the joint sponsorship and assistance of charter companies and industrial trade associations, will host 10 business conferences to sign up companies and equip them with financial and technical tools for energy efficiency and pollution prevention projects. Meetings will be held in Portland, OR; Palo Alto, CA; New Brunswick, NJ; Cleveland, OH; Detroit, MI; Minneapolis, MN; Milwaukee, WI; Raleigh-Durham, NC; Denver, CO; and Washington, DC. First workshop will be held in Boston on June 6, 1995. The goal of the workshops is to sign on additional Climate Wise Companies and facilitate implementation and results.

Climate Wise will initiate a National recognition program to award U.S. industry for their Climate Wise commitments and achievements.

Climate Wise will establish six municipal/county-level pilots to sign up additional companies and provide local-level technical assistance.

STREAMLINING AND RESTRUCTURING

Question: In several places within the Energy Conservation budget, there is a description of the "streamlining and restructuring initiatives" for the Office of Energy Efficiency and Renewable Energy. According to the justifications, the plan "assumes no growth in FTEs beyond the FY 1995 level despite program expansions." The plan "provides an aggressive streamlining program to make

the most effective use of existing staff, including increasing supervisory span of control, shifting resources to the field, and increasing diversity." Further, the strategy "is to expand the role of its field organizations, shift resources to directly support the program mission, and reduce unneeded Headquarters staff positions." What was the FY 1995 level of FTEs as compared with the FY 1993 and FY 1994 levels of FTEs? Why was FY 1995 selected?

Answer: Total FTEs for Energy Efficiency programs were 444 in FY 1993, 487 in FY 1994, and 544 in FY 1995. The streamlining and restructuring initiatives are part of the overall Departmental strategic alignment. In FY 1995, we are continuing with the next step in a process started two years ago to reshape the Department of Energy to better accomplish its missions and to use taxpayer money more wisely. Strategic alignment is the logical outcome of our prior strategic planning and quality management efforts. These actions will allow us to meet our goals of working more effectively and efficiently.

Question: Why does shifting resources to the field help with the streamlining and restructuring initiatives? Hasn't DOE been criticized for its expensive field structure?

Answer: There are some headquarters functions that could be delegated to the field. Project management functions, which benefit from direct interface with project partners and customers, are especially good candidates. We have asked all program units to evaluate their functions in terms of potential delegation to the field, as part of their internal planning process. In addition, we have just formed an in-house team with representatives from each sector, to explore such options across the board.

Question: What field offices does the Energy Conservation program support and what is the cost for each of these offices? What functions are performed by each of these offices? Where else are these functions currently being performed?

Answer: The Energy Efficiency programs are implemented in the field at 17 DOE field components including six DOE Operations Offices, one Field Office, and ten Support Offices. The six Operations Offices are the Oakland Operations Office, Richland Operations Office, Albuquerque Operations Office, Idaho Operations Office, Oak Ridge Operations Office, and the Chicago Operations Office. Additionally, the Efficiency Programs are implemented by the Golden Field Office (in Golden, Colorado) and the ten Support Offices, all of which report to the Office of Energy Efficiency and Renewable Energy. The Support Offices are located in Boston, New York, Philadelphia, Atlanta, Chicago, Dallas, Kansas City, Denver, San Francisco, and Seattle.

The six Operations Offices and the Golden Field Office manage and administer the Management and Operating (M&O) contracts for the National Laboratories. They are also Federal managers for program planning and execution, budget and financial management, information resource management, site infrastructure and construction, environment safety and health, procurement oversight, work for non-DOE entities, and various other program functions. Additionally, the Operations Offices and the Golden Field Office manage a wide variety of Energy Efficiency programs which are contracted through commercial vendors, non-profit entities, and colleges and universities. These activities include all DOE actions, from initial solicitation through the business and technical management of each contract.

Each of the ten Support Offices (SOs) manage and administer three major grants programs: Weatherization Assistance, Institutional Conservation, and State Energy Conservation. The Support Offices also conduct outreach activities to leverage non-Federal resources and accelerate the deployment of Energy Efficiency and Renewable Energy technologies. In order to accelerate the deployment of these technologies, the SOs perform outreach, administrative, management and contracting functions for EERE programs such as Clean Cities and Motor Challenge. The SOs collaborate with State and local governments, other Federal agencies and the private sector to catalyze partnerships aimed at achieving EERE objectives.

The following information provides the estimated administrative costs which support the Energy Efficiency Programs at these field components.

DOE Field Components in Support of Energy Efficiency Programs

	Administrative Costs (\$ in Thousands)	
	FY 1995	FY 1996
<u>Operations Field Offices</u>		
Oakland Operations Office	\$ 0	\$ 0
Richland Operations Office	0	0
Albuquerque Operations Office	170	170
Idaho Operations Office	340	340
Oak Ridge Operations Office	85	85
Chicago Operations Office	680	680
Golden Field Office	<u>2,236</u>	<u>2,240</u>
Total	3,511	3,515
<u>Support Offices</u>		
Atlanta Support Office	1,924	1,992
Boston Support Office	1,729	1,790
Chicago Support Office	1,766	1,781
Dallas Support Office	1,542	1,596
Denver Support Office	1,877	1,942
Kansas City Support Office	1,579	1,634
New York Support Office	1,726	1,786
Philadelphia Support Office	1,832	1,919
San Francisco Support Office	1,780	1,842
Seattle Support Office	<u>1,624</u>	<u>1,680</u>
Total	<u>17,379</u>	<u>17,962</u>
TOTAL	\$20,890	\$21,477

Administrative costs for the Operations Offices reflect estimated Federal salary and travel costs. Data for the Golden Field Office and the Support Offices includes Federal salary and travel plus the costs of operating an office such as rent and utilities.

Question: Why do you feel it is advisable to expand the role of the field organizations?

Answer: There are some headquarters functions that could be delegated to the field. Project management functions, which benefit from direct interface with project partners and customers, are especially good candidates. We have asked all program units to evaluate their functions in terms of potential delegation to the field, as part of their internal planning process. In addition, we have just formed an in-house team with representatives from each sector, to explore such options across the board.

Question: In the context in which it is used in your budget justifications, how do you define the term "diversity?" How do you increase the "diversity" of existing staff?

The concept of diversity is used to mean inclusion in hiring, developing and promoting men and women of all races, ethnic groups, religions, ages, and physical abilities. Organizational streamlining and strategic alignment implementation require that our positions directly support our program mission. This will provide opportunities for employee mobility, leadership and developmental positions within the organization.

Question: What "unneeded Headquarters staff positions" currently exist? Why have these "unneeded" positions been allowed to exist in the first place? How much savings do you anticipate from reducing these "unneeded" staff positions?

Answer: Our streamlining and strategic alignment activities currently include identifying and implementing process improvements, increasing span of control and downsizing through retirements and buyouts. These steps provide the opportunity to 1) target positions and vacancies that do not directly support our program mission, 2) consolidate functions of more than one position; and 3) reduce the layering of positions in the organization. In addition, as appropriate HQ functions are identified for use in our field structure, fewer support functions will be required. We project an FTE savings of approximately twenty-five percent of our HQ level over the next five years as a result of these activities.

Question: Do any "unneeded" positions exist in the field organizations? Will you also be increasing the "span of control" for the field organizations?

Answer: We currently are identifying some 90 HQ positions to be transferred to the field, and in doing so, will re-mission the field organization. Concurrently, we will be closing four Regional Support offices (in Kansas City, Dallas, San Francisco and New York). Some positions from these Support Offices may be reassigned elsewhere in the field to support program activities; others will be abolished. Span of control improvements have been made at all our field offices involving 30 positions.

Question: According to the justifications (page 232), you have established "crosscutting and flexible interoffice matrix teams." How many teams have been established and what is the purpose of each the teams?

Answer: The purpose of these teams is threefold: 1) to enhance internal corporate communications; 2) to improve corporate responsiveness and timeliness to customer needs; and 3) to minimize the necessity of using additional Federal and contractor resources during peak work load periods. These teams include: budget planning and formulation team organized to coordinate input and analysis of budget options, priorities and presentation; personnel process improvement team established to identify process improvements in the human resources area, and comprised of EE program staff, DOE administrative staff and a representative of the Office of Personnel Management; corporate communications team, consisting of representative from each program section and the Office of the Assistant Secretary; and most recently, the EE strategic alignment implementation team, established to develop a plan to respond to Secretary O'Leary's strategic alignment goals.

Question: Have any additional staff been added as a result of establishing these teams?

Answer: No additional staff has been required.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

ADVANCED DESICCANT TECHNOLOGY

Question: For FY 1995, Congress initiated a \$2 million program on desiccant dehumidification-based systems for cooling. This program was designed to be a two-year program to evaluate desiccant programs and systems. It is my understanding that desiccant technologies have a great potential for efficient, non-CFC cooling. Why didn't DOE include this in their FY 1996 budget?

Answer: DOE considers the \$1,990,000 for advanced desiccant technology under the Thermally Activated Heat Pump Program to be the appropriate level of funding for evaluating desiccant systems. When combined with gas industry and manufacturers cost share, a

DOE Industry program plan developed under the FY 1995 funding, to develop and commercialize cost-effective desiccant systems, was believed to be adequate to help industry and would have enough "push" for them to continue the program through 1996, and beyond, therefore no FY 1996 funds were requested.

GROUND SOURCE HEAT PUMPS

Question: DOE and industry have proposed a 6-year \$100 million program designed to install 400,000 ground source heat pumps by the year 2000. Why has DOE singled out one electric technology for federal assistance when there are other efficient, less expensive natural gas heat pump technologies ready to be commercialized? Why shouldn't your market entry program be fuel neutral and open to competing technologies?

Answer: It is true that DOE and industry have begun a 6-year \$100 million program designed to accelerate market acceptance of geothermal heat pumps powered by electricity. Industry has pledged \$65 million of this amount.

Electric geothermal heat pumps use much less power than the common electric air-source heat pumps. Similarly, application of geothermal technology to gas-fueled heat pumps will reduce their fuel consumption compared to air-source gas-fueled heat pumps.

The Department, the electric utility industry and the heating and cooling industry are cooperating in this effort because we were approached by the electric utility industry with a proposal to increase the sales of geothermal heat pumps. However, our commercialization efforts are fuel-neutral, and gas technologies will figure prominently in our efforts to develop and commercialize efficient appliances.

For example, we have awarded a contract through Oak Ridge National Laboratory to Carrier Corporation to develop and commercialize the "Generator/Absorber/Heat Exchanger" (GAX) gas heat pump, and have a similar contract with York to develop and commercialize the Triple Effect Absorption (Triathlon) commercial gas absorption chiller. If consortia of gas manufacturers are willing to make advance manufacturing equipment, if such equipment offers energy and environmental benefits commensurate with gifts and other cost-effective appliances, and if the gas industry will offer substantial cost share, the Department would be pleased to discuss the establishment of a market-pull consortia for gas heat pumps, subject to the availability of an appropriation. We note that if the incremental cost of gas heat pumps is small, the cost of setting up such a consortia should not be large.

NATURAL GAS VEHICLE TECHNOLOGY DEVELOPMENT

Question: DOE and the Administration have stated often they support increased utilization of natural gas. What research are you doing related to natural gas vehicle (NGV) technology development?

Answer: NGV technology research encompasses compressed natural gas (CNG) and liquefied natural gas (LNG) onboard storage, design of new engines specifically for natural gas, and development of catalysts specifically for methane and NO_x reduction. Examples of current projects are:

- Certification of Detroit Diesel 6492 engine on CNG. Other engines from Caterpillar, John Deere, etc., are in various stages of certification testing.
- Introduction of new high-temperature catalysts specifically designed to reduce natural gas emissions.

- Development of CNG adsorbents to reduce tank pressures to 500 pounds per square inch (psi), down from 3,000 psi, thus reducing tank weight while increasing vehicle range and safety.
- Design, fabrication, and road test evaluation of the advanced natural gas vehicle, a compact, dedicated CNG sedan with a demonstrated range of 400 miles, sub-ultra-low emissions, and acceleration superior to its gasoline counterpart.
- Operation of the Transportable Emissions Testing Laboratory by West Virginia University staff. Two independent units are operated nationwide on predetermined schedules, using heavy duty dynamometers to measure emissions and performance on mass transit buses and trucks without removing these vehicles from their revenue-producing routes. From 1992 to 1995, 450 vehicles in 15 cities (primarily DOE Clean Cities) in 12 States have been tested. Data is sent to the DOE Alternative Fuel Data Center at Golden, Colorado, for analysis.
- Acquisition and analysis of data from such real-world fleet operations, such as the all-NGV Clean Air Cab fleet in Washington, D.C., twenty United Parcel Service delivery trucks in the Washington, D.C.-Maryland metropolitan area, and twenty Federal Express delivery trucks in Los Angeles. These are only a few examples of the 1,500 vehicle test fleets nationwide from which data is accessed and analyzed.
- Design and development of a new process for producing LNG at Oklahoma University. This technology will permit economic introduction of local LNG-producing facilities for buses, truck, and railroad refueling operations nationwide.

Question: My understanding of DOE's alternative fuel vehicle program is that most of the money is being spent on electric and hybrid vehicles, rather than NGVs. Why? (DOE has proposed for FY 1996 nearly \$130 million for electric and hybrid vehicles and roughly \$40 million for NGVs.)

Answer: DOE has been supporting the development of alternative fueled vehicles for more than ten years. Cars and light trucks using CNG are especially promising because of the clean burning characteristics of the vehicles and the relatively plentiful domestic resources of natural gas. The Department's CNG vehicle programs have been geared towards: (1) testing and evaluations of systems to convert existing gasoline and diesel vehicles to use CNG, (2) development of advanced technologies for dedicated natural gas vehicles as an original-equipment manufacture, and 3) stimulating the purchase of OEM natural gas vehicles by covering the incremental costs of these vehicles in the Federal fleet.

The fiscal year 1996 budget for electric and hybrid vehicles covers technology development for three program areas: electric vehicles, hybrid vehicles, and fuel cell vehicles. The funding request for fiscal year 1996 for these areas is \$31.6 million, \$55.6 million, and \$42.2 million, respectively. Each of these funding levels individually compares favorably with the FY 1996 request of approximately \$40 million for natural gas vehicles. NGVs are an excellent alternative for the near term, and since it is essentially an existing technology, there is very little research and development to be done. The funding for NGVs is used primarily for refinement of the technology and vehicle deployment.

DOE programs have had an impact on both the development of advanced NGV technologies and have stimulated both the Gas Research Institute and the automobile manufacturers to produce NGVs for purchase by consumers. For instance, DOE funded a program at Johns Hopkins' Applied Physics Laboratory that demonstrated that a 300 mile range could be achieved in a compact sedan while retaining acceptable passenger and luggage space. Other programs are directed towards reducing the weight of CNG cylinders (for instance, adsorbent CNG storage systems and conformable tanks). In addition, the DOE student engineering research competitions have produced innovations, such as fuel injectors and lightweight composite tanks, that are currently in the marketplace.

DOE programs in natural gas vehicle technologies have had some influence in the market for these vehicles. Chrysler now makes a CNG mini-van that is commercially available, and is being purchased by fleet operators who have access to CNG refueling facilities. Most of the DOE support for CNG vehicles is now directed towards assistance in Federal fleet purchases, where DOE covers the incremental costs of these vehicles. In the case of the Chrysler CNG mini-van, the incremental costs are in the range of four to six thousand dollars.

In comparing the Department's CNG vehicle programs to its electric and hybrid vehicle programs, it should be noted that DOE is following a traditional model for government involvement in R&D, i.e., support directed towards longer term research. The DOE CNG vehicle support is directed at helping to establish a near-term base that could lead to a large-scale market for natural gas vehicles. Electric and hybrid vehicles are much more of an infant technology. As an example of the relative maturity of electric and hybrid and CNG vehicle technologies, the same Chrysler CNG mini-van that costs an extra \$4,000 to \$6,000 and has about a 200-mile range serves as the platform for Chrysler's TEVan electric vehicle which costs well over \$100,000, has a range of about 60 miles, and has much poorer acceleration. Thus, DOE has a larger effort directed at electric and hybrid vehicles.

QUESTIONS SUBMITTED BY SENATOR DALE BUMPERS

WEATHERIZATION ASSISTANCE PROGRAM

Question: I appreciate DOE's efforts to attempt to make the funding formula for the low-income weatherization assistance program more equitable. However, it is my understanding that, unless funding for the weatherization program is dramatically increased, warm-weather States will continue to be at a disadvantage in comparison to cold-weather States. What is DOE's justification for not changing the formula to put warmer-climate States on an equal footing with cold-weather States?

Answer: The Department published a Notice of Proposed Rulemaking (NPR) on January 23, 1995. The Department has held two public hearings and received written comments during the comment period which ended on March 9, 1995. The States voiced strong support for the proposed formula change. This rule puts in place the principles of the bipartisan compromise crafted during the FY 1995 appropriations process between the House and Senate Interior and Related Agencies Subcommittees authorizing the \$20 million increase as the minimum amount for implementation of the formula change. This new formula addresses equity without decreasing the funds for the cold-weather States and significantly increases the funding for warm-weather States. For example, even after a proposed Congressional FY 1995 rescission Arkansas will receive a 15% increase in funding.

ENERGY INFORMATION ADMINISTRATION

Question: I recently wrote a letter to Secretary O'Leary concerning the Energy Information Administration (EIA), asking her to justify EIA's \$84 million budget. What is the status of the letter?

Answer: A response to Senator Bumpers was sent in a letter dated April 28, 1995, signed by Secretary Hazel R. O'Leary.

INTEGRATED RESOURCE PLANNING

Question: The Energy Policy Act of 1992 authorized DOE to provide grants, from its Technical Assistance funding, for state utility commissions to conduct integrated resource planning (IRP). IRP is important because it forces utilities, when making resource decisions, to adequately consider energy conservation and lower-cost alternatives. How much funding, in the form of these grants, has DOE provided to the state utility commissions?

Answer: Although the Energy Policy Act of 1992 authorized DOE to provide grants to states, no funds for state grants were ever appropriated. Language in the Conference Report (103-740) for the FY 1995 Interior and Related Agencies appropriations explicitly prohibited DOE from issuing formula grants to the states.

The Department recognizes the critical need to get technical and financial resources into the hands of the states. The Department has initiated a program to provide up to \$5,000 on a first-come-first-served basis to state energy and regulatory agency staff for training and technical assistance related to IRP. In addition, the Department has provided close to \$800,000 in FY 1995 to the National Association of Regulatory Utility Commissioners to support that organization's programs and research related to IRP. Slightly over \$100,000 is provided to the National Conference of State Legislatures to support technical assistance to state legislatures related to IRP. Finally, the Department's IRP Program supports the Regulatory Assistance Project, a not-for-profit organization providing on-request technical assistance to state regulators on IRP-related issues.

Question: Integrated resource planning is primarily conducted at the state level. Given this fact, what is the justification for DOE's failure to provide any funding to the state commissions to help promote IRP?

Answer: As explained in our response to the previous question, the Department has been prohibited by Report language in our FY 1995 appropriation from issuing formula grants. Prior to Fiscal year 1995 no funds were appropriated for the purpose of state grants.

STATE ENERGY CONSERVATION PROGRAMS

Question: The National Association of State Energy Officials is suggesting that, given the current budget climate, it might be appropriate to merge a number of the state conservation grant programs into a block grant to reduce administrative costs and give the states more freedom to promote energy conservation. What is DOE's position on this proposal?

Answer: DOE has proposed the consolidation of a number of grants under the State Energy Conservation Program in a modified block grant format beginning with the FY 1996 appropriation.

APPLIANCE STANDARDS

Question: DOE has requested \$10.4 million for the Lighting and Appliance Standards program. As you know, it is likely that the Appropriations Committee will not be able to fully fund all of DOE's requests. As a result, it will be necessary to prioritize the programs to be funded. Have you prioritized the appliances to be addressed in the Lighting and Appliance Standards program in terms of energy efficiency to be achieved? If so, what appliances do you give the highest priority?

Answer: If the appliance standards program is not fully funded in FY 1996, priority will be given to the standards for the residential products. EPACT specifies that most of the commercial equipment standards are to be based on industry consensus standards, but revision of the residential standards is based only on DOE analysis. For the residential products priority will be given to revision of the test procedures to ensure proper testing of innovative designs and to harmonize the testing with international standards, when possible, to enhance the competitiveness of U.S. appliances in the international market. In regard to standards rulemakings for residential appliances, the highest priority will be those which will save the most energy. The highest priority standards rulemakings are, in no particular order: refrigerators and freezers; the rule which includes direct heating equipment, kitchen ranges and ovens, mobile home furnaces, oil and gas water heaters, pool heaters, and room air conditioner; fluorescent lamp ballasts; and clothes washers and clothes dryers.

NATURAL GAS COOLING

Question: Congress initiated a \$2 million program on desiccant dehumidification-based systems for cooling in FY 95. This program was designed to be a two year program to evaluate desiccant programs and systems. It is my understanding that desiccant technologies have great potential for efficient non-CFC cooling. Why didn't DOE request funding for this program in its FY 96 budget?

Answer: DOE believes that a DOE/Industry cost shared program developed with the FY 1995 funding of \$1,990,000 is sufficient to initiate a viable desiccant program. Under the Thermally Activated Heat Pump program, the focus is to develop and commercialize cost effective desiccant systems. DOE believes the funding to be adequate for a two year program and will provide enough "push" to industry to continue the program through 1996, and beyond. Therefore no FY 1996 funds were requested.

NATURAL GAS VEHICLES

Question: The Administration has often stated that it supports increased utilization of natural gas. What research is DOE conducting related to natural gas vehicles (NGV) technology development?

Answer: DOE research on natural gas vehicle technology development includes work on engine development, certification, onboard storage, catalyst development, emissions measurements both in the laboratory and on-the-road, and smog chamber studies to understand the reasons for photochemical smog formation. In support of this research, the fleet test demonstration program acquires real-world data on NGV fuel economy, maintenance, and emissions that is wired directly to the Alternative Fuel Data Center in Golden, Colorado, for access by engine, vehicle, and fuel researchers. This provides feedback from the fleet to the original equipment manufacturers, national laboratories, and DOE contractors for use in developing next-generation vehicles. Specific examples of tangible results from this work are:

- Development of a next-generation, ultra-safe compressed natural gas (CNG) school bus which not only meets ultra-low emissions vehicle standards, but also has sophisticated sensor and visual equipment to alert the driver to the location of children in proximity to the bus. Although not considered necessary by National Highway Traffic Safety Administration, the prototype will have seat belts.
- Introduction of an advanced natural gas vehicle developed under joint sponsorship by DOE, the Gas Research Institute, and industry. This compact, dedicated CNG sedan has already demonstrated a range of almost 400 miles, and is targeted for 500 miles.
- Development of an optimized liquefied natural gas locomotive engine which surpasses all California and Federal emissions standards. This engine will be installed in a locomotive for demonstration in early FY 1996.
- Development and evaluation of effective methane adsorbents and catalysts to increase NGV range and safety while reducing methane and NO_x emissions.

Question: Why has DOE requested three times as much funding for electric and hybrid vehicles in comparison to NGVs?

Answer: The funding for electric and hybrid vehicles includes the development of advanced batteries, hybrid propulsion systems and fuel cells. Each of these technologies offers the potential for major reductions in petroleum consumption in the long term, and, therefore, less dependence on foreign imports. Natural gas vehicles are an excellent alternative for the near term, and do not require significant research and development funding. The funding for NGVs is used primarily for refinement of an existing technology and vehicle deployment. However, NGVs do not offer the

long-term opportunity for energy independence. It should be recognized, however, that electric, hybrid, and fuel cell powered vehicles could and likely will utilize some natural gas as an energy source, but they will also be capable of using other domestic sources of energy.

Furthermore, one of the major activities of DOE is the Partnership for a New Generation of Vehicles (PNGV), a collaborative activity with the domestic automakers (through the United States Council for Automotive Research). The industry has formed technical teams to direct research on the most promising technical areas and has helped to define the priority areas.

The long-term goal of the PNGV is to develop a vehicle with up to three times the fuel efficiency of today's cars, yet with comparable performance (acceleration, range, etc.), equivalent passenger and luggage volume, equivalent ride, comfort, durability, reliability, and, most importantly, comparable costs to own and operate. To achieve the 80 miles per gallon (mpg) PNGV goal for a six-passenger, family-size car, it has become a consensus view that the most promising technology path would involve an electric drive system, either as a hybrid-electric vehicle or a fuel cell powered vehicle. Consequently, much of the priority funding is directed toward electric and hybrid vehicle technologies, coupled with lightweight materials, as these technologies provide the capability to dramatically improve automotive fuel economy.

Natural gas vehicles have received, and continue to receive, significant support from DOE. However, as a technology to meet the 80 mpg goal, natural gas vehicles have the disadvantage of relatively low energy density compared to liquid fuels. At standard pressures, one CNG cylinder provides about the range of four gallons of gasoline. With more than two cylinders, the passenger and luggage space begins to be seriously compromised and the added mass becomes an issue. DOE believes that CNG vehicles have an important near-term role in niche markets, which is why support is continued for this technology. For wider application across a broader range of vehicle types, the Department has followed the industry judgment that its priorities should be focused on electric and hybrid technologies.

Nevertheless, it should also be recognized that fuel cell vehicles could utilize natural gas as a fuel. DOE is supporting research on reformers for natural gas for use in fuel cell vehicles. Thus, natural gas could be a long-term fuel source for the PNGV technologies, especially with DOE's near-term support for CNG vehicles to help establish a widespread natural gas refueling infrastructure.

SUBCOMMITTEE RECESS

Senator GORTON. Thank you very much for coming. The subcommittee will stand in recess until tomorrow morning at 9 a.m., Thursday, April 27. We will again receive testimony from the Department of Energy on fossil energy, clean coal, the strategic petroleum reserve, and the naval petroleum reserve.

[Whereupon, at 10:04 a.m., Wednesday, April 26, the subcommittee was recessed, to reconvene at 9 a.m., Thursday, April 27.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

THURSDAY, APRIL 27, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:03 a.m., in room SD-116, Dirksen Senate Office Building, Hon. Robert F. Bennett presiding.
Present: Senators Gorton, Stevens, Bennett, and Byrd.

DEPARTMENT OF ENERGY

FOSSIL ENERGY RESEARCH AND DEVELOPMENT

CLEAN COAL TECHNOLOGY

STATEMENT OF PATRICIA FRY GODLEY, ASSISTANT SECRETARY FOR FOSSIL ENERGY

OPENING REMARKS OF SENATOR ROBERT BENNETT

Senator BENNETT. The subcommittee will come to order.

Today we will hear testimony in support of the Department of Energy's Fossil Energy Program. Testifying today is Assistant Secretary for Fossil Energy, Patricia Fry Godley. We welcome you.

Ms. GODLEY. Thank you.

Senator BENNETT. She is accompanied by some supporting witnesses, who I am sure will be introduced at the appropriate time.

I thank you for your courtesy in coming by my office and briefing me in advance of the hearing.

The Assistant Secretary for Fossil Energy oversees four distinct programs funded by this subcommittee: Fossil energy research and development, the Clean Coal Technology Program, the strategic petroleum reserves, and the naval petroleum and oil shale reserves.

The fiscal year 1996 budget request for fossil energy R&D was \$436,508,000, a slight decrease from the fiscal year 1995 level. The request includes a 25-percent increase in gas research programs, a 6-percent increase in oil technology research, offset by a 26-percent reduction in coal research.

For the Clean Coal Technology Program, the Department has revised its original request of \$45 million, down to \$10 million. This revision raises as many questions as it answers, in terms of the progress being made within the program.

For the strategic petroleum reserve, the Department has proposed to address critical safety problems at the Weeks Island site by decommissioning the facility.

This activity is to be financed by the sale of 100 million dollars' worth of Weeks Island oil. If Congress does not grant authority to finance the project in this matter, this committee will be forced to make some very difficult cuts to make up for the shortfall.

Similarly, the Department's request for the naval petroleum and oil shale reserves relies upon legislation authorizing the corporatization or sale of the reserves.

If such legislation is not approved promptly, this committee will likely be forced to prey upon other programs to protect the value of the reserves.

Ms. Godley, I look forward to hearing your testimony on these matters, and appreciate your making the time for today's hearing.

Your full statement will be made a part of the record, so feel free to summarize your remarks at this time, and you may introduce any associates who may be with you. The floor is yours.

SUMMARY STATEMENT OF PATRICIA FRY GODLEY

Ms. GODLEY. Thank you, Senator Bennett. I am grateful for the opportunity today to discuss the Office of Fossil Energy's fiscal year 1996 budget request. I have submitted the complete statement to which you referred.

What I would like to do, and I know we are short of time this morning, and you all are very busy as well, is read the subjects of the strategic petroleum reserves and the naval petroleum and oil shale reserves for the questions from the subcommittee, and focus a few brief remarks on the research and development portion of the budget, in particular, three points that I can make upon these activities.

The first one I would make is, while this seems such an obvious point to me, we have had such a variety of opinions expressed in recent weeks by various witnesses before the committees of Congress, so I want to just state for the record that energy is not just another commodity, as some have said.

It is the cornerstone of our national security. Reliable, affordable energy fuels our every activity, and is required for our economic security and our continued good quality of life.

Second, 85 percent of the demand for energy in this country is met by fossil energy, from coal, natural gas, and oil. And that percentage, 85 percent of our demand, is likely to hold at least through the year 2010, by all credible projections. Between now and the year 2010, we will increase our energy demand in this country by another 20 percent.

Senator BENNETT. I am sorry to interrupt you, but could you break that down, coal, natural gas, and oil, and are there changes? In other words, is coal falling, while natural gas is rising?

Ms. GODLEY. Oil will fall a little. Coal and natural gas will maintain pretty much their current rate. Gas, depending on who you are looking at, is projected to increase some as we try to stimulate more use in natural gas, in hopes of improving our environmental situation as well.

So natural gas rises a little, coal maintains its market share pretty steadily, oil falls off a little bit.

Senator BENNETT. What is that? Is coal 50 percent?

Ms. GODLEY. Well, I have my handy-dandy EIA fact card, which I will be glad to share with you and leave with you after the hearing, if I may do that.

Senator BENNETT. Yes; that's fine, thank you.

Ms. GODLEY. But my second point, with respect to the market share, the fact that fossil energy satisfies 85 percent of our energy demand currently, leads me to my third point.

That is, if we are going to meet this 20 percent increase in energy demand between now and the year 2010, it's going to take advanced technology to get us there. We already rely on imported oil supplies for 50 percent of our oil supplies in this country.

EIA is projecting that this dependence on oil will rise to a level of 60 percent over the next 15 to 20 years. So that magnifies the need, the absolute national security need, for a heightened focus on technologies, that will allow us both to produce and maximize our domestic fuel resources as well as to be able to use those resources more efficiently, and with less environmental impact.

So that brings me then to what, if any, is the Federal role in developing that technology that we are going to need to be able to meet our increasing energy needs, and what is the role that the Federal Government should play?

I guess that there are many ways to look at that. The way that we look at that in the Office of Fossil Energy and the Department of Energy is that the Federal Government should invest in the development of energy-related technologies when the private sector, private market participants are either unable or unwilling to take the high risk inherent in the development of technologies and needed technologies in critical areas of national importance.

I should add when I say that, rule of thumb, when the market is unwilling or unable to participate or take the high risk necessary to make those kinds of investments, really justifies two areas of investment with respect to fossil energy under our current market situations.

One of those is investment in technologies that increase our ability to find and produce domestic natural gas and oil resources. The second area are technologies that increase our ability to use coal and natural gas to generate electricity more efficiently, more cleanly, and more affordably.

You might wonder why I stick natural gas and oil in the category of developing those resources, and look more at coal and natural gas on the use of fossil energy resources. When you think about it, we really know where to find coal these days.

We know how to find and produce it. We have increased significantly the amount of coal we can produce per miner hour, so we are pretty good on our technologies to find and produce coal.

Oil and gas is really the focus, where we really need to increase technologies to be able to maximize those particular domestic resources.

With respect to power generation, on the other hand, coal continues to provide about 55 percent of the fuel needed to power genera-

tors in this country today, electric power. So that continues to be the focus of our power generation.

So for those reasons, we are focusing on those two areas of technology development, again, how do we develop our domestic resources, and then how do we use those more efficiently, with less environmental impact, and affordably keep the cost of those resources down.

So that's why we are proposing to invest \$447 million Federal dollars, both in our research and development, and clean coal programs, taken together. I call that our RD&D program, combined.

In cost-shared partnerships with industry—and I would want to emphasize that—that virtually all of the programs and projects that we fund in the Office of Fossil Energy are cost shared with industry significantly, 20 percent or so in the more basic scientific research activities we undertake and up to 60 or 70 percent, as we take those technologies closer to market.

I want to add that while there is a lot of talk about the coal budget going down while the natural gas and oil budget is going up. I think a better focus on how this portfolio is balanced is to break it into where we are putting our resources on the supply end, which is about 40 percent, versus how we use our resources, which is about 60 percent of our budget, as opposed to trying to break out those fuels, and for all the reasons that I've said before.

So I can talk a bit more about why Federal investment is needed in the oil and gas industry. We talked about this some before, and you have heard and read other articles about it, but the major oil companies in this country are going offshore, to greener pastures. That is a proven fact.

Why is that? In the oil fields of the United Kingdom, the average well produces almost 3,900 barrels per day of oil. In Saudi Arabia, the average well produces more than 6,500 barrels of oil per day.

In the United States, in the lower 48 States, the average well produces only 10 barrels a day. Today, 85 percent of the wells drilled in the lower 48 States are drilled by independent producers.

One-third of these companies have fewer than 5 employees; two-thirds have 20 employees or less. Very few have full-time geologists on their staff, and they are certainly not investing in high-risk, long-term R&D development.

As recovery rates go down, and our fields are depleting in the United States, costs go up, making it even more difficult for these producers to maintain their drilling and are abandoning their wells in increasing rates.

Well abandonments effectively mean that we will lose the oil and gas remaining in these abandoned fields, perhaps 50 to 70 percent of the original oil in place, forever.

Our programs, most of which are cost-shared 50-50 with industry in the oil and gas area, will reduce the cost of production and the abandonment rate in many of these wells significantly, and will result in an increase in domestic gas production of 2 trillion cubic feet per year by the year 2010, which is the equivalent of about 1 million barrels of oil a day, and add up to 60,000 more jobs a year.

Our oil program will also increase production, in this case by 750,000 barrels per day, adding an additional 45,000 jobs.

So this is an area we believe of critical national need, where the industry is unwilling, or in this case, unable to invest fully to develop these technologies, where Federal role is appropriate for this cost-shared investment.

Let us look then at the other side where we invest more of our money, about 60 percent. This is in power generation technologies, and the supporting research and development of those technologies.

Our Nation's electric power needs will increase by more than 21 percent by the year 2010, enough to require more than 1,300 new powerplants in this country, with a 100-megawatt capacity.

Meanwhile, environmental requirements are becoming more stringent, as you know, particularly in the area of emissions into the air and disposable waste products. These similar concerns about the environment are magnified exponentially, as we have talked about before, in the international electric power generation market, where the global demand for clean electric power generation is exploding.

It will increase by an estimated \$750 million, to \$1 trillion of industry potential new investment, in the next 20 to 30 years.

Our U.S. companies could capture only 20 percent of this market, we estimate it could create more than 40,000 new jobs in the United States, and an even stronger economy.

The power generation industry does not have the capability to invest on its own in the development of high-risk, capital-intensive, advanced power generation technologies.

Most electric utilities, for example, are highly regulated. Their rates of return and the profit margins are limited. As a result, these regulated utilities generally cannot afford and do not invest directly in R&D.

Independent power producers, while they are not regulated, are already very highly leveraged. Long-range R&D, high-risk, capital-intensive R&D is rarely, if ever, part of their investment portfolios.

Equipment vendors also cannot justify to their stockholders these days, all of us wanting short-term turnaround on our investments, to invest alone in high-risk, long-term R&D.

Long-term these days to investors, particularly in these industries, is no more than 5 years, usually less. It takes, as you know, anywhere from 5 years, up to 20 years, typically, 20 years, to develop a new technology from an idea and get it into the marketplace. Our companies in this country are not investing in that long-term R&D development by themselves.

The competition worldwide is stiff in this power generation market. The Government of countries like Japan have targeted this market and are working jointly with their industries.

These governments are working jointly with their industries to develop high-technology exports. In fact, seven OECD countries spend more on energy research and development as a percentage of GDP than does the United States.

Japan spends the most, three times more than the United States. If United States development of these technologies does not keep pace with the development of foreign suppliers, the United States will quickly lose its leadership in this highly competitive international market.

Our power systems and clean coal technology programs that we are developing in the Office of Fossil Energy will give the United States the power systems that we are going to need to produce clean and affordable electricity, new baseload supplies that we project will be needed, beginning in about the year 2005, and after.

We will, through these programs, increase power generation efficiency from the current 35 percent, for some conventional powerplants, up to 60 percent, as these technologies are developed, reducing emissions of these powerplants far below their current rates, and current required performance standards, and decrease the cost of power generation over current levels by 10 to 15 percent.

These are the kinds of technologies that we are working on in the clean coal program and in our advanced power program, which is the follow-on to our clean coal technologies.

To conclude, Mr. Chairman, there is strong nonpartisan agreement, I believe, that we must reduce the national fiscal deficit.

What continues to puzzle me, as I read all of the testimony, the comments of witnesses before our energy committees, both authorizing budget and the appropriations committees, is that there appears to be no equivalent feeling of urgency to reduce our national energy deficit, and to secure our energy future. This is a critical national issue.

The fiscal year 1996 budget for the Fossil Energy Office reflects, we believe, a balanced and appropriate investment of Federal funds to help accomplish these objectives through the development of technology in the area of fossil energy production and use.

PREPARED STATEMENT

So, Mr. Chairman, I am here, along with my colleagues from the Office of Fossil Energy, who I might call upon, as needed, depending on the subject matter of questions, and we are available to answer your questions and those of the rest of the members. Thank you.

Senator BENNETT. Thank you very much. We will, without objection, include your entire testimony in the record.

[The statement follows:]

STATEMENT OF HON. PATRICIA FRY GODLEY

Mr. Chairman and Members of the Subcommittee:

The FY 1996 budget for the Department of Energy's fossil energy programs reflects the vital role that energy, and particularly energy from hydrocarbons, plays in the economic health of the United States and its workforce.

The United States obtains 85% of its energy from coal, petroleum and natural gas, and will continue to do so well into the 21st century. For a nation determined to sustain economic growth, to create new jobs for its citizens, and to preserve and enhance the quality of life, fossil fuels will remain an indisputable and dominant part of the energy equation for our lifetime and the lifetimes of several future generations.

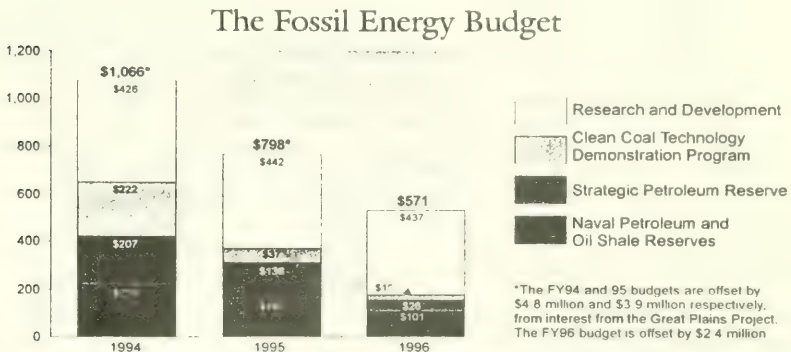
Our budget request has been fashioned from three very important premises that go to the core of the Department's Strategic Plan, *"Fueling a Competitive Economy"*:

- (1) The economic security of the United States depends upon full development of domestic energy resources that are secure, reliable and affordable.
- (2) The United States will not be able to produce and use hydrocarbon fuels to their full potential – efficiently, affordably, and with environmental responsibility – unless new technology is developed and deployed.
- (3) Failure to build on the substantial technological capabilities we already possess will put the U.S. at a competitive disadvantage to other countries who are pushing hard to dominate an increasingly "high-tech" global energy market.

As Secretary O'Leary said in her January 19, 1995, testimony to the House Appropriations Interior Subcommittee, *"The national security danger in this decade and the 21st century is far more than bombs and weapons. It has to do with economic viability and economic dominance. I don't want us to lose that battle."*

My testimony will discuss how our budget proposal addresses these strategic goals in the three areas of responsibility of the Office of Fossil Energy: (1) development of technology for the production and use of fossil fuels, (2) management of the Strategic Petroleum Reserve, and (3) management of the Naval Petroleum and Oil Shale Reserves.

The FY 1996 request for new appropriations for these programs is \$571 million, a 28% reduction from the FY 1995 appropriations, as shown by the following chart:



Dismantlement is Not the Answer

Recently, some members of Congress and others have called for the Department of Energy to be dismantled, arguing that energy is "like any other commodity" and that DOE was created "in an emotional reaction to the energy problems of the 1970s." These statements wrongly assume that the economic health of the United States is no longer closely tied to secure and affordable energy supplies.

In reality, more than a third of the nation's Gross National Product is energy-related. The typical American family spends more on energy consumption than it does each year on medical care. The availability and cost of energy can have significant impacts on economic growth and job creation in the United States and often dictates whether U.S. products are economically competitive in global markets.

The Department of Energy was not established as a knee-jerk reaction to the energy crisis of the early 1970s. It was created more than three years after the end of the 1973 oil embargo, and its formation was based on the recommendations of both the Ford and Carter Administrations. Both Presidents independently concluded that energy research, development and policy responsibilities were so integral to the Nation's economic future that a single, coherent organizational structure was needed at Cabinet level. Clean, affordable energy is no less indispensable to the well-being of this country today than when Presidents Ford and Carter called for an Energy Department in the 1970s.

Three important facts should be considered in the debate over dismantling DOE:

- 1) **Dismantlement by itself will not produce cost savings.** Transferring DOE functions to other agencies and eliminating its cabinet-level position will not produce significant budget savings. Dismantling, in fact, may increase costs in the short run and create inefficiencies. Current dismantlement proposals are similar to those made in the early 1980s. At that time, the Congressional Budget Office ultimately determined that the "\$3 million in annual savings...(would be) offset by additional administrative and logistic costs...(so that the) net impact on the budget will be small."
- 2) **U.S. taxpayers have a substantial investment in unique Federal research facilities.** Among the 30 Federal laboratories nationwide that form the backbone of U.S. scientific leadership are the Energy Technology Centers at Morgantown (WV) and Pittsburgh (PA) and the National Institute for Petroleum and Energy Research in Bartlesville, OK. These facilities have fundamental research capabilities in coal science, combustion phenomena, environmental cleanup, thermodynamics, instrumentation and other disciplines.
- 3) **The Department is not trying to protect the "status quo."** DOE is taking a new direction to downsize, realign resources, and improve efficiency. Already, contract reform and salary freezes are saving \$3.5 billion over five years. DOE's initial efforts to improve efficiency in environmental clean-up will produce five-year savings of \$2 billion. The Department's total Federal and contractor workforce has already been reduced 10 percent from FY93 to FY95. Further reductions and streamlining are underway. We are committed to a \$14.1 billion deficit reduction package over five years through a combination of cost-cutting and privatization. We have begun a realignment of our structure to focus more on the most critical services and do so with increased efficiency and effectiveness and at lower costs. Dismantlement would bring these cost-saving initiatives to a halt to the detriment of the taxpayer.

We Are Focusing on Priorities and Cutting Costs

The Office of Fossil Energy is making its contribution to President Clinton's pledge to deliver to the American people a leaner Federal Government that works better and costs less. We are making the tough decisions that will lead to significant cost savings that will make the President's initiatives possible:

- (1) **Return Unused Clean Coal Technology Funding** - In FY 1996, we have requested only enough funding to meet our estimated project commitments for that year. While we continue our commitment to ongoing projects, we will request no new starts. If any project is cancelled, the project's funding will either be used to meet the needs of remaining projects, or will be rescinded if not needed by the program.
- (2) **Sell a Small Portion of Strategic Reserve Oil** - We will offer to the market a small amount of Strategic Petroleum Reserve crude oil – equivalent to less than a single day of imports – to offset the unexpected costs of having to move oil from a geologically-unsound site and to ensure the future readiness of this important, national "insurance policy".
- (3) **Divest of the Naval Reserves** - In FY 1997, we propose to privatize the Naval Petroleum and Oil Shale Reserves which are now purely commercial operations performing non-Federal functions. If we cannot obtain a fair return to the taxpayer through an asset sale, we propose to manage these properties through a for-profit government-owned corporation, allowing the Reserves to be operated in a business-like manner that will maximize their value.
- (4) **Sharpen Focus of Coal R&D** - We propose to focus our research and development in the use of coal on advanced electric power technologies, realizing the benefits of more than a decade of government-industry cost-shared investments and making available a new generation of power systems in time for critical post-2000 market decisions. We will decrease or eliminate funding of technologies whose prospects for economic competitiveness are much farther into the future.

These are the highly visible examples of cost reductions and savings that are part of our budget request. Other examples are not so prominent, but they, too, reflect our commitment to reduce costs and to make the management of the Office of Fossil Energy more efficient. For example:

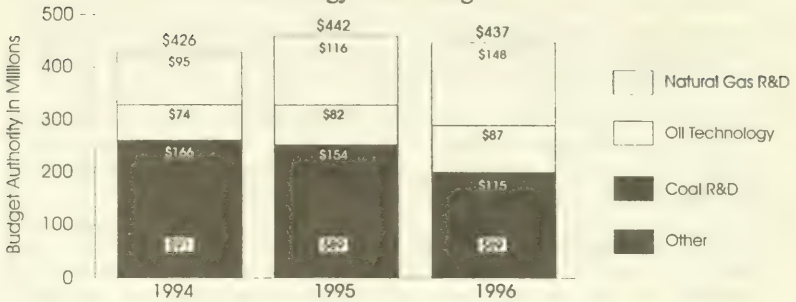
- (5) In FY 1996, our Energy Technology Centers at Morgantown, West Virginia and Pittsburgh, Pennsylvania will cut the cost of support service contracts by one third compared to FY 1994, saving \$12 million per year over FY 1994 expenditures.
- (6) At the Strategic Petroleum Reserve, we have made operational improvements – ranging from more efficient use of electric power to the use of more cost-effective environment, safety and health compliance methods – that have saved \$80 million in the last four years, and expect to save a total of \$167 million through the year 2000.
- (7) We have worked to bring greater levels of industry cost-sharing into all of our R&D programs, and we have instituted more rigorous reviews in our Clean Coal Technology Program to make the most effective use of Federal funds available for cost growth.

These changes and others will create a leaner program, as we focus our budget squarely on the challenges most critical to the energy future of this country.

THE FY 1996 FOSSIL ENERGY R&D PROGRAM

Within the overall Fossil Energy program, our FY 1996 budget request for research and development is \$437 million. The proposed budget retains a commitment to technology advancement, in most cases highly leveraged by joint funding with the private sector. At the same time, our FY 1996 budget distributes funding in a way that brings a better balance to our R&D portfolio by increasing the relative proportion of funding for natural gas R&D. The distribution of funding is shown by the following chart:

The Fossil Energy R&D Budget



The programs in this budget respond to the two primary energy challenges that, if left unresolved, will adversely affect every resident of this country:

(1) ***Our growing dependence on other countries for liquid fuels.***

Last year, U.S. oil imports hit a record level, supplying more than half our domestic consumption. More than \$50 billion flows out of this country annually to pay for foreign oil, up from \$35 billion in 1986. If these dollars were to be invested in the U.S., they would translate into the equivalent of more than 450,000 U.S. jobs, \$24 billion per year in direct and indirect wages, and more than \$21 billion per year in royalties, taxes and other payments to the Federal Government and States.

Moreover, we are prematurely abandoning domestic oil fields at an alarmingly high rate – resulting in the permanent loss of billions of barrels of oil in the U.S. that could lead to even greater dependence on foreign sources in the future.

(2) ***The need for cleaner, more efficient, affordable electric power generation.***

The economic slowdown in the 1980s reduced the need for new electric power plants. Few large plants are being built today. With the economy growing again, the U.S. will require new electric power generating capacity early in the next century. The next generation of power plants, however, will have to meet new environmental standards while still producing affordable electricity. Traditional technology cannot meet the more stringent standards and keep energy costs down and the economy growing.

Given that Americans spend \$200 billion a year today on electricity, new technology that can meet tighter standards while keeping electric power costs at or below today's levels is essential to the continued health of our economy.

Our budget request responds to these challenges through partnerships with industry.

Government-Industry Cooperation – The Basis of Our R&D Program

The pace of technology development is critical. We can keep our domestic economy growing and stay ahead of our international competitors, only if new technology is ready in time to meet critical market "windows." We don't believe that will happen unless the Federal Government and the private and academic sectors join in concerted, forward-looking, risk-shared partnerships.

In today's highly competitive international marketplace, other countries have created their own public-private R&D ventures in an effort to gain significant global advantages in developing and marketing energy technologies for the 21st century.

In the U.S., the Federal Government is often the only significant investor who can assume the risk of a longer-term investment – where returns may be as many as 20 years into the future, the time it takes for a new technology to move from idea to reality. Government can provide the critical catalyst that stimulates the private sector to look beyond immediate financial benefits and invest in higher-risk technologies that can maintain our Nation's competitive edge. Industry participation also assures that the technology in which the Government invests has a real benefit in the market.

Our programs are cooperative partnerships with industry and other investors. They continue only if our partners maintain their support, generally through increasing levels of cost-sharing. Almost every dollar in our FY 1996 R&D budget will leverage private dollars:

- o **Demonstrations - 60% cost-shared.** Our larger demonstration efforts, for example, the Clean Coal Technology Program and the Oil Recovery Field Demonstration Program, attract around 60% industry cost-sharing.
- o **Engineering development - 20-50% cost-shared.** Engineering efforts, such as programs to develop fuel cells, advanced turbines, new coal-based power systems, and new gas and oil exploration and production technologies, have cost-sharing ranging from 20% to more than 50%.
- o **Fundamental Research - up to 25% cost-shared.** Much of our more fundamental research, even when the payoff is well into the future, still receives almost a quarter of its funding from private and academic sponsors.

Taken together, the FY 1996 Fossil Energy technology program proposes to carry out nearly \$360 million in actual research, development and demonstration. This Federal funding will attract almost \$300 million in private sector cost-sharing, or approximately 40% of the actual costs of the projects.

This substantial degree of cost-sharing is our best gauge as to whether the private sector considers our technology partnership programs to be relevant to industry needs.

As the following discussion illustrates, these government-industry partnerships provide the foundation of our budget in natural gas, oil, and coal research and development.

The Natural Gas R&D Budget

The FY 1996 request for natural gas R&D is \$145 million, a 25% increase over last year's appropriation. Natural gas R&D is the largest funding category in the R&D program:

Budget Authority in Millions

Natural Gas Research and Development	FY 1995 Appropriations	FY 1996 Request
Fuel Cells	\$49.58	\$55.46
Natural Gas Research		
- Resource and Extraction	\$20.70	\$33.00
- Delivery and Storage	1.07	3.07
- Advanced Turbine Systems	37.67	43.97
- Utilization	4.26	4.93
- Environmental Research/ Regulatory Impact Analysis	2.99	5.41
Total Natural Gas R&D	\$116.27	\$145.84

Natural gas is a rapidly resurging domestic energy option. The prevailing opinion of the 1970s that gas was a scarce resource has been replaced with a much better understanding of the tremendous domestic supply that actually exists. The National Petroleum Council, in the most extensive study to date, has concluded that nearly 1,300 trillion cubic feet of natural gas is technically recoverable in the lower-48 States. Far from being "scarce," this resource base represents a 60-year supply, with the likelihood that even more will be found as technology improves. The challenge is to turn this huge resource base into proven reserves.

Three major problems exist, however, that limit our realizing the full potential of natural gas in the U.S.:

- (1) Much of the gas is beneath offshore waters that are currently off-limits to producers because of Congressionally-imposed moratoria.
- (2) While natural gas is gaining acceptance in markets such as the electric power sector, improved technology is needed to make gas an even more attractive fuel, particularly in urban areas where environmental concerns are greatest.
- (3) Some potential customers, again largely in markets such as power generation, still lack confidence in the supply and availability of natural gas.

The Fossil Energy R&D program focuses specifically on these latter two obstacles where new technology can play the most important role.

We have assigned a high priority to advanced natural gas technologies because they address both our liquids and electric power needs. For example:

- o **Oil Substitution** - By developing better ways to extract natural gas from a greater diversity of geologic formations, we can help enhance consumer confidence that sufficient reserves will be available for both traditional markets and new applications, such as transportation where substituting natural gas for petroleum can reduce oil imports.
- o **Electric Power** - By developing improved ways to use natural gas for power generation, we can offer new options for meeting future growth in electric power demand, especially for intermediate and peaking requirements.

Specific elements of the Natural Gas R&D program include fuel cells, advanced gas turbines, and supply R&D:

Fuel Cells

(FY95- \$49.6m, FY96 - \$55.5m)

Taxpayer Benefits: A new, ultra-clean method for generating electricity that can be sited in urban or remote areas, close to the power consumer. First-generation systems are deploying today; more advanced concepts will emerge from our program in 1998.

Because of the Federal investment in the 1980s and early 1990s, first-generation fuel cells are now crossing the commercial threshold. Relying on electrochemistry instead of combustion, the fuel cell is attractive for both heavily polluted urban areas and remote applications. Not only will it emit none of the smog-causing pollutants associated with conventional power plants, it is ideal as a distributed power source; that is, it can be sited close to the electricity user – for example, at electrical substations, or at shopping centers or apartment complexes, or in remote villages – minimizing long-distance transmission lines.

The fuel cells program is comprised of four initiatives:

- o **Climate Change Partnerships for a Strong Economy** (FY95 - \$0, FY96 - \$8.0 million). This is part of a DOE-wide climate change action program to curb the growth of greenhouse gases. Last year, the Department proposed an initiative to accelerate market entry of commercially-ready fuel cells. Fuel cells are among the lowest emitters of greenhouse gases, and their widespread commercial use could help the Nation meet its greenhouse gas reduction commitments. However, while technologically proven, commercial fuel cells currently have a market price well above conventional technologies. The initiative proposed rebates for up to a third of the cost difference, creating an incentive for buyers to purchase fuel cells and for manufacturers to build mass production facilities that would lower costs. Congress added the funding to the Department of Defense appropriations and directed DOD to coordinate its activities with the Department of Energy. In FY 1996, we propose to continue this coordination and to complement the DOD market entry initiative with funding for accelerated demonstrations of advanced fuel cell systems.

Commercially-ready fuel cells are limited to relatively low temperature operations. Boosting operating temperatures can enhance power generating efficiency, provide even better environmental performance, and potentially lower costs. Higher temperature fuel cells, however, require different materials. The two most promising approaches are the *molten carbonate* and *solid oxide* technologies. Both are attracting substantial industry cost-sharing:

- o **Molten Carbonate Systems** (FY95 - \$30.0m, FY96 - \$30.1m). Industrial sponsors - both vendors and customers - are providing an average of 34% cost-sharing to develop the molten carbonate fuel cell for commercial introduction by 1998. Two field test demonstration projects are attracting more than 50% cost-sharing. One is a 250-kilowatt cogeneration unit being installed at Miramar Naval Station in San Diego; the other is a 2,000-kilowatt power plant in Santa Clara, CA. In FY 1996, these pioneering units will be producing power. The FY 1996 budget proposal contains funding for testing these pioneering demonstration units and for a development effort to improve the technology and reduce costs.
- o **Advanced Concepts** (FY95 - \$18.1m; FY96 - \$16.1m). The solid oxide fuel cell is an all-solid-state device that promises the highest operating temperature and efficiency of all concepts now in the Federal program. Its commercial potential is reflected in the fact that its development program is one of the highest cost-shared efforts in the Fossil Energy program, attracting nearly 51% of its funding from private sponsors. In FY 1996, the program will reach a major milestone when a 100-kilowatt test unit now being fabricated goes into operation. The unit is the basic building block of a commercial multi-megawatt plant.
- o **Advanced Research** (FY95 - \$1.46m; FY96 - \$1.3m). This supporting research effort concentrates on solving generic problems, such as developing better techniques and materials for interconnecting solid oxide fuel cells, and exploring advanced fabrication techniques.

Advanced Gas Turbines (FY95 - \$37.7m; FY96 - \$44.0m)

Taxpayer Benefits: Continued U.S. leadership in a huge world market by developing a "breakthrough" 21st century turbine system by the year 2000, offering higher efficiencies, and better environmental performance than any turbine marketed by U.S. competitors.

More than half of all new generating capacity to be added in the U.S. in the next 20 years will likely be gas-turbine-based. Much of the world is also looking to add gas turbine technology as economies expand. These two factors place the U.S. in a race for a global market that is likely to total hundreds of billions of dollars.

The United States currently commands 80% of the worldwide turbine market. But our manufacturers are facing growing competition from foreign vendors who are heavily subsidized by their respective governments.

To remain the world's leader, U.S. turbine vendors will have to offer a superior, yet affordable product. Current technology has essentially reached its limits. Conventional configurations and materials make it virtually impossible to boost operating temperatures and efficiencies further. These limitations give other nations the opportunity to trim the U.S.'s historical lead. The key to our future competitiveness will be a new type of advanced turbine.

The DOE program is attempting to "leapfrog" current technology – developing a turbine system with a different configuration and advanced materials that will not only be more efficient than current technology but also cleaner and lower cost. DOE and industry have jointly planned and are carrying out an 8-year program – 1992-2000. The program has enlisted more than 22 universities and the National Laboratories to assist in overcoming generic hurdles.

The Office of Fossil Energy is concentrating on utility-scale systems, while the Office of Energy Efficiency is co-funding a companion effort to develop industrial-scale systems. The FY 1996 program marks the mid-point of this program. After initial conceptual studies, the program is now concentrating on specific turbine components. In FY 1996, full-scale components and sub-systems will be tested, leading to a turbine demonstration in the 1998-2000 timeframe.

Natural Gas Supply R&D

(FY95 - \$29.0m; FY96 - \$46.4m)

Taxpayer Benefits: Lower-cost and more effective approaches for locating and producing natural gas, ensuring that U.S. customers have confidence in gas supplies and that U.S. producers can take maximum advantage of a plentiful domestic resource.

Natural gas use in the U.S. is expanding, but recent gains are only a preview of what might be possible in the future. Gas is an ideal fuel for intermediate and peaking load electric power generation (the incremental levels of power supplied to meet high demands for electricity). Natural gas also can back out petroleum in the transportation market. The Gas Research Institute predicts that new and expanding markets could boost domestic demand for natural gas by more than 33% by 2010, from today's 21 trillion cubic feet per year to nearly 28 trillion cubic feet per year.

But without technological advances, the Nation's gas producers will not be able to keep up with demand. In fact, if current technology is not improved, our producers' ability to supply natural gas to customers will actually decline. As much as 12 trillion cubic feet of the gas that could be consumed in 2010 could be unavailable from U.S. sources without improved technology.

DOE's natural gas supply R&D program is targeting specific opportunities for technological improvement identified by industry. In virtually all these areas, the risks are too high or the payoffs too uncertain for industry to finance projects on their own. But industry has been willing to invest if the Government shares the risks. Overall, industry is now providing almost 48% of funding for R&D that can enhance the Nation's natural gas supply.

Activities include:

- o **Resource and Extraction** (FY95- \$20.7m; FY96- \$33.0m). In future years, this program will be titled "Exploration and Production" to better reflect its make up. In this effort, the Department is co-funding the development of new drilling tools that can lower the cost of drilling for natural gas. Also, the program is working with universities and field operators to develop ways of locating naturally-occurring fractures in gas-bearing rock with greater accuracy, and to design fracturing technology that can create or enlarge fractures with greater precision and less damage to the reservoir.

These technologies will be particularly important in extracting the extensive gas supplies that exist in the tightly-packed, harder-to-produce sand formations in the West. Resource characterization – understanding the nature and extent of natural gas formations – is also a key element of this activity. Efforts are underway to develop gas data systems, models and atlases that convert the "geological" picture of the Nation's gas resource into a more precise "engineering picture." Field studies will continue in the mid-continent region to quantify the potentially large amounts of "secondary gas" missed or bypassed by previous operations, and climate change-driven R&D will continue into coal bed methane recovery.

Also, \$14 million of funding in this category will be combined with funding from the Oil Technology program (\$4 million) to support the *Advanced Computational Technology Initiative*, an industry-led program to apply the super-computing capabilities of the National Laboratories to assist the U.S. gas and oil industry.

- o **Delivery and Storage** (FY95- \$1.1m; FY96- \$3.1m). A key to customer confidence is the timely and reliable assurance that natural gas is flowing into the Nation's delivery system or is readily available from storage. This confidence level suffers because States have inconsistent methods for gathering and reporting gas flow. Also, better equipment is needed for real-time measurement of the heat content and volume of gas flowing into a delivery system.

DOE can play a coordinating role in working with States to develop consistent reporting guidelines. It can support the development of better gas flow measuring equipment. Also, by working with the gas industry to transfer better drilling and production technologies to extracting gas from storage reservoirs, the Department can enhance the confidence of the end-user that adequate gas will be available when needed.
- o **Utilization** (FY95- \$4.3m; FY96 - \$4.9m). A third of the U.S.'s natural gas resource is too low in quality to permit its introduction into pipelines. It contains too much nitrogen, carbon dioxide, hydrogen sulfide or other impurities. Often, this gas is shut-in or abandoned because of the expense to upgrade it. Other gas supplies are too remote for economical pipeline transport – for example, gas in some regions of Alaska or in Gulf of Mexico fields. Converting this gas to transportable liquids is one way to produce marketable fuels. The FY 1996 budget continues research to develop lower-cost ways to remove impurities that contaminate low-quality gas and to convert remote gas supplies to liquids.
- o **Environmental Research/Regulatory Impact Analysis** (FY95 - \$3.0M; FY96 - \$5.4m). As much as two-thirds of natural gas production is accompanied by the production of naturally occurring radioactive materials (NORM) which must be disposed of in a safe and efficient manner. In many areas, this is becoming more costly. Public mis-understanding can also lead to excessively burdensome requirements. This budget request will provide for one or more well-demonstrated, scientifically rigorous field-scale tests of safe and effective alternatives for NORM collection and disposal, with a focus on the Gulf Coast region. Other efforts will focus on assessing environmental risks in gas extraction and processing, working jointly with producers and State agencies.

The Oil Technology Budget

Taxpayer Benefits: A decrease in today's accelerating rate of domestic oil field abandonments and the potential to recover billions of barrels of crude oil that are currently beyond the reach of the independent producers (who are responsible for a growing percentage of U.S. oil production); also, more efficient and affordable technologies that can keep U.S. refineries in business.

Today, two major changes are occurring in the domestic industry: (1) major oil companies are moving to more lucrative prospects overseas, leaving aging domestic fields to much smaller, independent producers, and (2) low oil prices and lack of adequate technology are causing an unprecedented number of U.S. oil fields to be abandoned, even though substantial quantities of oil remain unproduced.

Oil field abandonment is a serious problem with permanent consequences. When an oil field is abandoned, its gathering system, pumping and piping, storage tanks and other surface facilities are removed. Often, leases expire or are voided by inactivity. When this occurs, it is likely that the field will never be reopened. Rebuilding surface facilities creates an enormous front-end capital burden – more than could be recouped if oil prices rose several times their current level. The oil that remains in the field, perhaps 50% to 70% of the original oil discovered, is essentially lost forever.

This situation is occurring in the United States. In 1980, only 20% of the remaining oil resource in the lower-48 States had been abandoned. Today, half has been abandoned. By 2020, 80% is likely to be permanently unavailable.

Although independent producers have made remarkable progress in cutting production costs, most lack the geological capabilities or access to technology to slow this alarming trend. One-third of independents have fewer than five employees. Two-thirds have 20 employees or less. These smaller companies, by themselves, can't afford the sophisticated geologic services that can tap the full potential of our domestic oil resource. Yet, they drill 85% of all domestic wells and produce 50% of all the crude oil recovered in the lower-48 states and 66% of the natural gas.

The Department's FY 1996 budget request focuses squarely on these problems:

Budget Authority in Millions		
Oil Technology	FY 1995 Appropriations	FY 1996 Request
Reservoir Class Field Demonstrations	\$33.91	\$28.37
Exploration and Production Supporting Research	36.09	41.35
Exploration and Production Environmental Research	4.78	7.06
Processing Research and Downstream Operations	6.93	10.00
Total Oil Technology	\$81.71	\$86.78

- o **Reservoir Class Field Demonstrations** (FY95- \$33.9m; FY96- \$28.4m). This program addresses the oil abandonment problem by providing cost-sharing to producers and others to demonstrate ways to prolong the life of the Nation's most endangered classes of reservoirs. A "producer-to-producer" technology transfer effort is required, so that operators in similar geologic situations learn about promising approaches for maintaining or boosting production.

Currently, 33 projects are in the program representing three different geologic classes of reservoirs. Total value is \$290 million, with the private sector providing 57%. A fourth class of reservoirs will be targeted in FY 1995. The FY 1996 budget will continue funding for these projects and begin a new effort to apply better reservoir management techniques to prevent marginal wells from being shut-in.

- o **Exploration and Production Supporting Research** (FY95- \$36.1m; FY96- \$41.3m). While the field demonstration program is "buying time," the supporting research program is co-sponsoring research into more advanced methods of producing oil. New technologies

have the potential to produce greater proportions of the oil known to exist and to locate and produce crude oil that is currently undiscovered. Included in this program are better ways to use thermal and chemical processes to enhance recovery, including oil that may have been bypassed by conventional approaches. Also underway are new approaches for studying the characteristics of a reservoir, such as microseismic mapping and the use of nuclear magnetic resonance and cat-scan imaging, to determine how best to extract its remaining oil.

Advanced drilling tools and techniques are also sponsored in this program. Technology transfer is a key element, with funding provided to apply National Laboratory-developed technology to the oil and gas industry and to disseminate information on promising technologies to independent producers. A portion of this funding (about \$4.1 million) would be used to support the *Advanced Computational Technology Initiative*.

- o **Exploration and Production Environmental Research** (FY95- \$4.8m; FY96- \$7.1m). Stringent environmental compliance requirements could reduce domestic oil production by as much as 500,000 barrels per day. To ensure that States, Federal regulatory authorities, and local agencies have sufficient data to adequately assess risks before imposing new regulatory requirements, DOE is carrying out an accelerated research and data gathering effort.

Specific study areas include the effects of disposing of produced water and sand from oil recovery operations and the treatment and disposal of naturally-occurring radioactive materials. Also included is work with States, Tribes, and Federal agencies to streamline environmental regulations and simplify compliance requirements without compromising environmental protection.

- o **Processing Research and Downstream Operations** (FY95- \$6.9m; FY96- \$10m). The 1990 Clean Air Act Amendments have placed a regulatory requirement on U.S. refineries that could total nearly \$37 billion in compliance costs – \$6 billion more than the entire net worth of the refineries themselves.

More stringent regulations come at a time when the Nation is demanding higher-quality refined products (reformulated gasoline and oxygenated fuels) while the general quality of domestic crude oil is declining. In FY 1994, DOE began a downstream refining and processing research program. In FY 1996, this program will be expanded to assist the refining industry in developing lower-cost environmental compliance techniques, improving upgrading technology (for example, using bioprocessing to remove sulfur and metals from heavy oils), and developing new technologies that can prevent pollutants from forming rather than incurring the costs of cleanup.

The Coal R&D Budget

The United States relies on coal for more than 22% of its total energy consumption. Economic growth will increase production of U.S. coal by more than 21% by the year 2010. The predominant use of this coal will be for electric power generation.

Coal generates 53% of the nation's electricity, more than double the contribution of any other fuel source. More than 8 out of every 10 tons of coal mined in this country go to electric power plants. Coal will continue to be the primary source of electric power for well into the next century not only in this country but for much of the world. The United States has an extraordinary opportunity to market new, cleaner coal-based electric power systems overseas, creating new U.S. jobs and helping reduce the U.S. trade deficit.

Accordingly, R&D on future electric power systems is the highest priority of the three categories in the FY 1996 Coal R&D budget:

Budget Authority in Millions

Coal Research and Development	FY 1995 Appropriations	FY 1996 Request
Advanced Clean/Efficient Power Systems	\$90.51	\$73.38
Advanced Clean Fuels Research	\$38.52	\$16.57
Advanced Research and Technology Development	\$25.36	\$24.92
Total Coal R&D	\$154.39	\$114.87

Advanced Clean/Efficient Power Systems

(FY95 - \$90.5m; FY96 - \$73.4m)

Taxpayer Benefits: New electric power generating options that can reduce sulfur and nitrogen oxide pollutants by 10-fold over current technology without imposing higher costs on consumers; technologies that will allow the U.S. to keep using its most abundant and affordable energy resource for meeting additional power demands created by an expanding economy.

Within the Coal R&D program, we have assigned our highest priority to advanced technologies for electric power generation, decreasing other coal-related research efforts to ensure that we maintain the pace of electric power systems development. Industry, either through individual companies or the Electric Power Research Institute, provides an average of 28% in cost-sharing for the advanced electric power generation R&D projects.

The reason for the high priority is that additional electric generating capacity will be crucial for economic growth beginning early in the 21st century.

Today, few companies are building "baseload" power plants – the larger plants that make up the backbone of the Nation's power grid. But this situation will change in the coming decade. The current fleet of baseload plants is aging and will require replacement or repowering. Even with aggressive energy efficiency measures, economic expansion will create the need for new power plant construction – perhaps as much as 120,000 megawatts overall by 2010 with at least 30,000 megawatts likely to be coal-fired.

This approaching need for new power will be accompanied by new environmental standards that have fundamentally altered future planning for power technologies.

The 1990 Clean Air Act Amendments, for example, impose a nationwide, permanent sulfur emission cap due to take effect in the year 2000. This will create progressively more difficult challenges for power companies to add new generating capacity to meet future electricity demands.

Current environmental controls impose both a cost and efficiency penalty. Without new technology, it will be difficult for generating companies to respond to increased demand for electricity and environmental regulations without raising the cost of electricity. Given that \$200 billion a year from our economy goes for the purchase of electricity, any economic penalty can erode U.S. competitiveness and ultimately limit economic growth.

Today, however, because of more than a decade of Government-industry research, we now have in sight a new family of technologies that can lead to a 10-fold reduction in a power plant's emissions while, at the same time, lowering the cost of electricity and raising efficiency.

With these new technologies, the Nation will be able to add significant amounts of new electricity generating capacity – sustaining economic growth – for well into the 21st century while staying under the Clean Air Act's emission cap. At the same time, electricity rates can be kept affordable.

Moreover, these new technologies will be more efficient than today's systems, producing electricity ultimately at 50-60% efficiencies, compared to the 33% efficiency levels common today. Higher efficiencies mean fewer carbon dioxide emissions, reducing concerns about the buildup of greenhouse gases and making these technologies valuable export commodities.

This new suite of advanced technologies includes:

- o **Advanced Pulverized Coal-Fired Systems** (FY95 - \$7.5m; FY96 - \$5.0m). These "low emission boiler systems" combine the most attractive combustion and pollution control advances into a new, original design of a conventional pulverized coal-fired boiler. Because it closely resembles conventional hardware, the technology could gain early market acceptance. Three industry teams currently are designing different versions of the boiler system. DOE plans to reduce the number to one at the current private cost-sharing ratio, or to two if additional private cost-sharing can be attracted. Currently this effort is receiving 37% industry cost-sharing.
- o **High Efficiency Pressurized Fluidized Bed** (FY95 - \$25.2m; FY96 - \$19.5m). Fluidized bed systems are the next step up in power plant efficiency. They burn coal in a way that permits pollutants to be reduced inside the boiler, eliminating the need for expensive scrubbers. Pressurizing the process produces high-energy gases that allow a gas turbine to be added (along with a conventional steam turbine), giving coal plants the same "combined cycle" efficiency advantages as natural gas- or oil-fired systems. In FY 1996, construction of the Nation's first "one-stop" test center for advanced coal power systems – the Wilsonville (AL) Power Systems Development Facility – will be completed with 20% cost-sharing from industry. A 2nd-generation pressurized fluidized bed system is to be pilot tested at the facility in FY 1996.
- o **High Efficiency Integrated Gasification Combined Cycle** (FY95 - \$27.5m; FY96 - \$24.5m). This technology boosts power generating efficiency even more, while further lowering emissions. The coal combustor is replaced with a gasifier and highly-effective cleanup equipment is employed to remove impurities from the coal gas. In FY 1996, the Wilsonville Power Systems Development Facility (see above) will also be used to test a variety of "hot gas" particulate removal devices – advanced devices that can remove fine fly ash particles from the high temperature gas stream without major efficiency losses. DOE will also complete construction of a gasifier improvement facility in West Virginia that will test an innovative gasification technology designed specifically for 21st century electric power generation. Industry cost-sharing averages about 20%.
- o **Indirectly Fired Cycles** (FY95 - \$11.8m; FY96 - \$11.9m). This technology offers a novel approach that combines a gas turbine with a coal combustor but prevents the hot, potentially damaging, combustion gases from contacting the turbine. Instead, the gases heat a "working fluid" that powers the turbine. This year, two contractors are continuing the initial phase of conceptual design and preliminary R&D, while a third is testing a ceramic heat exchanger. The next phase – engineering development – is scheduled to begin this summer and will be continued through FY 1996. Private sector cost-sharing is averaging about 32%.
- o **Advanced Research and Environmental Technology** (FY95 - \$18.5m, FY96 - \$12.5m). Activities in this budget line are either critical to the success of many of the advanced power systems or offer specific sub-systems for future power plants. New approaches for super-clean emissions controls, such as electrochemical separation processes, are part of this effort. Work will also be funded in FY 1996 to evaluate the release of air toxics from advanced power plants, ensuring that the Environmental Protection Agency has sound data to set reasonable compliance requirements. Also, this effort includes research into recovering,

reusing or disposing of carbon dioxide from coal-fired power plants and studies to determine the most effective ways of disposing of coal wastes.

Advanced Clean Fuels Research

(FY95-\$38.5m; FY96-\$16.6m)

Taxpayer Benefits: The future option for the Nation to make liquid fuels from coal if warranted for economic or national security.

The FY 1996 budget reduces the scope of the Federal program to develop lower-cost ways to produce liquids from coal. At the same time, it recognizes the strategic importance of keeping the technology base available for future use and, at the laboratory scale, maintaining the drive toward lower costs.

Since the early 1980s, the program has achieved substantial technological progress. New approaches have reduced the cost of making liquid fuels from coal from \$60 per barrel to \$35-\$40 per barrel (all costs are based on full development and scale-up). Design and catalyst improvements offer the prospects of reaching, or perhaps breaking, the \$30 per barrel mark. More recently, experiments have shown a new path perhaps leading to even lower costs. Mixing waste plastics into the coal feed provide a relatively cheap source of hydrogen. In previous processes, hydrogen has been relatively expensive, driving up the cost of the liquid product. Using waste plastics might offer dramatic price reductions, perhaps down to \$20 per barrel, while helping to solve a major solid waste disposal problem. Included in this program are:

- o **Direct Liquefaction** (FY95 - \$9.8m; FY96 - \$5.1m). Direct liquefaction processes convert coal directly into liquid fuels by adding hydrogen under heat and pressure. In FY 1996, industry-performed research on improved catalysts and advanced liquefaction technologies will be conducted to maintain a basic level of technological expertise.
- o **Indirect Liquefaction** (FY95 - \$12.6m; FY96 - \$5.8m). Indirect liquefaction processes gases made from coal into various types of fuels, such as gasoline, diesel fuel, or oxygenates. The major reason for the budget reduction is the conclusion of testing at the LaPorte (TX) alternate fuels facility which, during the last decade, has produced a wealth of data on techniques for producing a wide variety of products. Work in FY 1996 will concentrate on smaller-scale research to develop better catalysts and to design better reaction vessels.
- o **Coal Preparation** (FY95 - \$7.2m; FY96 - \$4.9m). Two major efforts will continue in FY 1996. One will investigate the potential of coal cleaning to remove air toxic-causing impurities. For some elements, particularly mercury and selenium, pre-combustion cleaning may be the only effective means for reducing these emissions. The second effort involves research on more advanced physical and chemical cleaning concepts, along with associated tests to determine the combustion characteristics of highly-cleaned fuels.
- o **Advanced Research and Environmental Technology** (FY95 - \$4.0m; FY96 - \$0.7m). DOE will phase out its coal sample data base activities and its funding of the Consortium for Coal Liquefaction Science, and reduce its efforts in advanced liquefaction catalysts.
- o **Systems for Coproducts** (FY95 - \$5.0m; FY96 - \$0). In past budgets, DOE had received funding to construct a process unit to test a "mild gasification" method of producing high-value liquids and solids, such as form coke and chemicals, from coal. The technology is a variation of concepts successfully demonstrated in the Clean Coal Technology Program and elsewhere. Therefore, this effort is not of sufficiently high priority to warrant further funding.

Advanced Research and Technology Development
(FY95-\$25.4m; FY96-\$24.9m)

Taxpayer Benefits: New ideas that could offer breakthroughs for future energy systems, advances in materials and equipment that could prove critical to the success of new technologies, and the education and training of tomorrow's scientists and engineers.

This program provides the "seed corn" of our Nation's future fossil energy industry. The program has produced important commercial successes – for example, the Microcel™ coal cleaning technology is now a marketed technology. It has also revealed potential revolutionary scientific breakthroughs – such as the application of "supercritical acids" to refinery and coal processing which earned a former Fossil Energy grant recipient the 1995 Nobel Prize in chemistry. Many projects have also served as training ground for college and university students who will be the country's next generation of scientists and engineers.

The Department is proposing a budget of \$24.9 million for its Fossil Energy Advanced Research and Technology Program in FY 1996, a slight decrease from the \$25.4 million enacted in FY 1995. The funding would be divided between two types of activities:

- o **Crosscutting applied research** - A set of activities to develop the technology base for enabling science and technology that are critical to the future development of highly-advanced coal based power and fuel systems. These activities include: studies in coal utilization science (\$3.1m) to increase our knowledge of the principal mechanisms that control coal combustion; high performance materials and components (\$7.3m) to develop solutions to materials barriers that might otherwise limit improvements in advanced coal processes; instrumentation and diagnostics (\$0.5m) to improve process controls for advanced coal plants; bioprocessing (\$1.0m) to apply advances in biotechnology to clean and process coal; and university and Historically Black Colleges and Universities research (\$7.0m) in which student-teacher teams work on advanced projects that span the full spectrum of fossil fuel use.
- o **Crosscutting studies and assessments** - These efforts include international support (\$1.3m) and coal technology export activities (\$1.2m) to assist U.S. industry in opening new markets and ensure that the U.S. is benefitting from international cooperative activities; environmental activities (\$2.5m) which analyze trends and issues in air and water quality, solid waste, toxic substances and global climate change; and technical and economic analyses (\$1.0m) which support the Office of Fossil Energy's and DOE's strategic planning and response to requests from Congress for analytical studies.

Other R&D Funding Requirements

Program management - To manage the Fossil Energy R&D program, the FY 1996 budget requests \$69.9 million for program direction and management support, a decrease from \$72.3 million in FY 1995. The decrease is actually more prominent than these figures would indicate, however. Just over \$7.7 million of the FY 1996 request provides funds for the management and operating contractor at the National Institute for Petroleum and Energy Research at Bartlesville, OK. Previously, funding had been provided in the Oil Technology Program.

Plant and capital equipment - The FY 1996 request of \$4 million for plant and capital equipment will permit needed repairs and refurbishments of buildings at the Energy Technology Centers and the Bartlesville Project Office. Also included in this budget is funding to maintain computer networks between the Federal sites and to establish a worldwide connection via the Internet to provide external audiences and potential worldwide customers with information on Federal-industry-university programs.

Environmental restoration - The budget also proposes \$18.9 million to clean up contamination at Federally-owned fossil energy sites and former sites of Federally-sponsored fossil energy research. This funding also addresses compliance deficiencies associated with Federal, State, and local environment, safety and health regulations at the Energy Technology Centers.

Cooperative research - DOE is proposing no additional funding in FY 1996 for cooperative research activities at the University of North Dakota Energy and Environmental Research Center and the Western Research Institute. These privately-owned centers have established excellent research capabilities and are partners in other Fossil Energy projects. Both will be encouraged to compete for future procurements in the same manner as other organizations.

Fuels Programs - The request of \$2.7 million will allow continued statutorily-required reviews of natural gas imports and exports, exports of electricity, and the construction and operation of electric transmission lines that cross U.S. borders, along with other regulatory functions.

THE CLEAN COAL TECHNOLOGY PROGRAM

Taxpayer Benefits: Cleaner, more efficient technologies demonstrated in time for 2000-2010 utility decisions on the next fleet of power generation facilities; potential export commodities for a global power market that could approach \$1 trillion in the early part of the 21st century.

The FY 1996 budget request continues our commitment to ongoing Clean Coal Technology projects that continue to have strong support from their industrial co-sponsors. Yet, it also recognizes the likelihood that some projects may not continue. The current funding profile is:

Dollars in Millions

Clean Coal Technology Program	FY 1995 & Prior	FY 1996 Request	FY 1997 Estimate	FY 1998 Estimate
Prior Law	\$2,260	\$200	\$288	
Current Law (includes Congressional Rescission)	\$2,260	\$150	\$138	
Revised Funding Profile (Proposed)	\$2,260	\$10	\$150	\$128

The Clean Coal Technology Program has always been envisioned as a limited-duration initiative, rather than an ongoing technology development effort. From its five rounds of industry competition, the program currently has 43 projects. Of these, 13 have been completed. By the end of FY 1996, 24 will have completed their co-funded operations.

For every \$1 invested by the Federal Government, private companies and States have contributed \$2, making the program one of the most successfully leveraged technology-development ventures in the U.S. Government.

The program has produced significant results to date, and the benefits will escalate as the final projects enter their critical testing stages. Within the last year - the first in which a large number of projects have generated commercially-useful data - commercial sales have exceeded half a billion dollars, supporting more than 3400 jobs. In the U.S. and worldwide, more than \$9 billion of commercial ventures have benefitted in some manner from the Clean Coal Technology Program and its associated research efforts.

Given the tight Federal budget requirements, the FY 1996 budget requests only enough funding to meet contract commitments accruing in that year. The program establishes specific decision points in all Clean Coal Technology projects and specifies critical performance requirements that must be met by the industrial co-sponsor. Over the coming months, several projects will reach these decision points. DOE, along with its private sector partners, will critically examine the merits of each project and whether the original purpose and financial commitment continues to exist. Given the high-risk nature of these projects, some will likely terminate. If any project is cancelled, the project's funding

will either be used to meet the needs of remaining projects, or will be rescinded if the funds are not needed by the program.

THE STRATEGIC PETROLEUM RESERVE PROGRAM

Taxpayer Benefits: An emergency supply of crude oil that can protect against economic disruptions caused by oil cutoffs or shortages; a powerful deterrent to countries that might use oil as a political weapon.

The Office of Fossil Energy maintains the Nation's emergency oil stockpile – the Strategic Petroleum Reserve. Since the early 1980s, the existence of the Reserve has deterred hostile oil supply interruptions. The commitment of the U.S. to use the Reserve was a key element of the coordinated allied response to the 1991 Persian Gulf war. Combined with the overwhelming military action, announcement of a drawdown brought prices to pre-war levels.

Recently, questions have been raised about the need for a strategic reserve. While the development of additional oil reserves outside the Persian Gulf region has led to greater diversity in suppliers of oil to the U.S., maintaining the Strategic Petroleum Reserve inventory remains critical to ensuring our energy security.

There is still potential for supply disruptions to the world market caused by wars, political and religious unrest, natural disasters and failure in transportation logistics. Also, U.S. oil imports are projected to rise from nearly 50% today to about 60% by early next century; the world's oil reserves are becoming increasingly concentrated in the highly volatile Persian Gulf region; and U.S. leadership in stockpiling is critical to the accumulation of stocks in other International Energy Agency member countries.

The Strategic Petroleum Reserve is our national insurance policy. It is an asset, however, that is aging and particularly for the next 4-5 years, it will require a concentrated effort to refurbish its infrastructure and ensure its readiness for at least the next quarter century. Our priorities are to rectify the high gas content that has accumulated over time in some of the oil, to continue the decommissioning of the Weeks Island site, and to extend the life of or replace critical facilities to ensure readiness through 2025.

The request for new budget authority is:

Budget Authority in Millions

Strategic Petroleum Reserve	FY 1995 Appropriations	FY 1996 Request
Storage Facilities Development, Operations and Decommissioning	\$226.94	\$293.86
Management	16.78	18.83
SPR Petroleum Account	-107.76	-187.00
SPR Receipts Account	-	-100.00
Total - SPR	\$135.95	\$25.69

The FY 1996 facilities operations and management program is proposed to be financed by the transfer of \$187.0 million from prior year balances in the SPR Petroleum Account, use of \$100.0 million from the sale of crude oil associated with the Weeks Island decommissioning, and new budget authority of \$25.7 million for a total of \$312.7 million. The continuation of fixed terminalling costs to maintain capability to resume crude oil fill or refill operations will be funded from prior year balances in the SPR Petroleum Account for a total of \$5 million.

An SPR Decommissioning Fund will be established to finance the removal of crude oil and decommissioning of the Weeks Island site (see below) and other Reserve activities during FY 1996. The proposal provides for the sale of up to seven million barrels of oil associated with the Weeks Island decommissioning.

- o **Oil Stabilization** - Long-term storage of crude oil in some of the Reserve sites has resulted in the accumulation of a higher-than-normal gas content, apparently from years of intrusion of methane from surrounding salt. Also, natural geothermal heating has raised the temperature of some of the oil. Both problems could increase air emissions as oil is withdrawn from the caverns. Degasification of the oil is scheduled to begin in July 1995 and be completed in April 1998, and requires continued funding in FY 1996. Installation of heat exchangers to cool the oil during drawdown operations is complete.
- o **Weeks Island** - A naturally-occurring fracture (or fractures) conveying water from a near-surface aquifer to the converted salt-mine storage chambers has compromised the geologic integrity of the Weeks Island facility in Louisiana, and created a significant risk of environmental damage and potential oil loss. The Department plans to transfer the Weeks Island oil to other Strategic Petroleum Reserve storage facilities in Louisiana and Texas during 1995 and 1996, and to decommission the site during 1997 and 1998. In FY 1996, decommissioning activities will be funded from the SPR Decommissioning Fund financed by the sale of \$100 million of crude oil.
- o **Life Extension Program** - The Life Extension Program will ensure that by the year 2000, all major systems will have been upgraded or replaced to extend the useful life of the Reserve's facilities and drawdown systems to the year 2025. FY 1996 projects include replacement of pumps, piping, valves, controls, brine ponds and various items of equipment necessary to maintain the readiness of the Reserve.
- o **Commercial Use of Facilities** - In 1994, DOE initiated a project to permit commercial use of the Reserve's oil distribution facilities and pipelines that are underutilized due to suspension of oil fill. DOE has invited industry to submit offers to lease the St. James marine terminal. A solicitation for offers to lease the two Federally-owned crude oil pipelines in the Capline system will be issued in mid-1995. By making these facilities available for commercial use, the Department expects to: (1) reduce the operational cost of the Reserve, (2) generate revenue from the Government's investment, and (3) support industry in meeting the Nation's needs for crude oil distribution.
- o **Petroleum Inventory** - The Reserve's inventory is currently 592 million barrels, and fill remains suspended in FY 1995 and FY 1996.

THE NAVAL PETROLEUM AND OIL SHALE RESERVES

Taxpayer Benefits: A valuable asset that no longer performs a Federal function; privatization can provide a significant portion of the budget offsets needed to support deficit reduction and tax cuts.

It is time to rethink the Federal role in operating the Naval Petroleum and Oil Shale Reserves.

The Reserves were established in the early 1900s to ensure a secure source of crude oil for the Navy as it converted its coal-powered fleet to oil. The Reserves no longer serve that purpose. Instead, they are operated today strictly as commercial ventures. One of the properties, the Elk Hills field in California, is the nation's 10th largest oil field and the largest natural gas producer in the State. This is a function the Federal Government should not be undertaking.

The Federal Government is managing and operating oil and gas reserves only because the Reserves were needed as a strategic asset at one time in our history. This is no longer necessary since the Strategic Petroleum Reserve now provides the entire U.S. economy with strategic protection from oil supply disruptions. Moreover, the Government cannot operate the Reserves in accordance with prudent commercial standards because of bureaucratic requirements imposed on Federal operations. In addition, the three-year Federal appropriations cycle precludes the timely implementation of investment decisions necessary to maximize the value of the fields.

Accordingly, the Administration is proposing legislation to:

- (1) Authorize the Department of Energy to prepare a sales strategy and place the Reserves on the market in FY 1997. A minimum acceptable price would be determined.
- (2) Amend current legislative authorities to allow the Department to operate the Reserves more profitably until the assets could be sold. This would include amending the "maximum efficient rate" requirements, the 20% cap on sales to a single purchaser, the small refiner set-aside, etc.
- (3) Authorize the establishment of a Government corporation in the event that the President determines that offers to buy the Reserves fail to meet the minimum sales price established in accordance with the criteria set forth in the statute.

In preparation for an FY 1997 sale, the FY 1996 budget request assumes a "caretaker" status in maintaining operations at the Elk Hills Naval Petroleum Reserve #1. In a "caretaker" budget, capital investment for exploration and developmental drilling, facilities, and remedial well workovers would not be funded. Requested funds would be used first to meet safety and environmental requirements, operate on-line wells and facilities, and then, if funds are available, to conduct maintenance activities. While these minimal operations will probably allow us to maintain net revenues at approximately current levels in FY 1996, continuing "caretaker" operations in subsequent years would reduce production and decrease revenues.

This FY 1996 budget is shown in the following chart:

Naval Petroleum and Oil Shale Reserves	Budget Authority in Millions	
	FY 1995 Approp.	FY 1996 Caretaker Request
Naval Petroleum Reserves	\$177.07	\$94.43
Naval Oil Shale Reserves	2.30	0
Program Direction	7.69	6.60
Total, NPSR	\$187.06	\$101.03

Mr. Chairman, we are certain that management and operation of the Reserves under the status quo, as just another Government program without the flexibility to make and carry out sound business decisions, will far from maximize the value of the Reserves, and will be a disservice to the U.S. taxpayer.

We would, therefore, strongly request that the Congress support legislation to engage professionals to value the Reserves' assets to determine their potential market value, to realize the maximum value of those assets through sale of the Government's interest in the Reserves in FY 1997, and only if offers do not produce a fair value to the taxpayer, create a for-profit, Federally-owned government corporation to operate and manage the Reserves.

CONCLUSION

The Office of Fossil Energy oversees a diverse group of activities. Most are inherently government functions, for example:

- o Providing the leverage that industry needs to develop technologies that will meet the demand for the energy required to fuel our economy in the 21st century.
- o Maintaining an emergency crude oil stockpile for national and economic security.

One, the operation of commercial oil and gas fields, is not.

In all of our activities, we are committed to ensuring that real and measurable benefits accrue to the citizens of the United States.

Speaking for all the employees of the Fossil Energy program, we are proud of our track record. From the development of more effective polycrystalline diamond drill bits to the introduction of fluidized bed combustors – which *Power* magazine called "the commercial success story of the last decade" in the power industry – our programs have made an impact. They continue to make an impact today. For example:

- o One of our first Reservoir Class oil field projects (see page 14) has changed conventional thinking in the Green River oil fields of Utah. Already, transfer of the technology to neighboring fields is likely to produce enough new Federal royalties and taxes to pay for the entire Class I demonstration program;
- o Our Advanced Gas Turbine program (see page 10) has already influenced commercial turbine design. A new commercial combustion turbine – introduced a few months ago as the world's largest, most efficient industrial turbine – uses technology for several key components derived from the DOE development program.
- o We can trace the benefits of our Clean Coal Technology Program (see page 22) and its associated R&D to nearly \$9 billion of power projects in the U.S. and overseas.

In FY 1996, if Congress approves the continued pace of our proposed R&D program, we will continue to produce tangible results, including:

- o A new array of fracturing technologies, drill bits, and drilling systems that collectively could save gas producers at least \$300 million a year by reducing equipment costs and reducing the number of dry holes;
- o Two new advanced fuel cell demonstration units generating electricity in commercial settings in California, giving prospective customers "real-life" data for market decisions;
- o More than 40 oil field demonstration projects showing producers – especially independents – ways to extend production from the Nation's most endangered reservoirs;
- o Completion of six more Clean Coal Technology Projects, bringing the total to 24 and positioning the United States with the most extensive array of new environmental and energy products of any country now competing in the global market.

At the same time we continue our investment in our country's energy future, we are determined to find more ways to cut costs and operate more efficiently, so that we can justify every dollar that we spend.

I will be pleased to answer any questions Members of the Subcommittee may have.

FOSSIL ENERGY FUNDING PRIORITIES

Senator BENNETT. In general terms, could you describe how the Department would allocate resources, should fossil energy R&D funding be reduced? For example, would the Department favor more basic research over engineering development or commercialization?

Would technologies reliant upon higher energy prices be sacrificed to support technologies more likely to be commercialized at today's prices, gas versus coal, versus oil, and so on? Can you comment on that?

Ms. GODLEY. I can. I think that the kinds of criteria that should guide those judgments, I believe, should be to maintain a balanced portfolio of research and development in our technologies, so that it would be a mix of the kinds of technologies that you have mentioned.

I think that we certainly have to understand and appreciate something that many people in this country do not appreciate, and I know the members of this subcommittee do appreciate, our domestic coal supplies are equivalent to proven oil supplies held by the rest of the world.

We have more coal supplies than proven oil supplies in the rest of the world. So we must continue our work in coal-related technologies, and in our program, particularly in the power-generation area. That is where our program is focused principally now.

I believe it is equally important to maintain basic scientific research in technologies that will not be competitive economically in the near-term, maintain the expertise and the bench-scale types of work going on in those, such as in coal liquifaction areas, where we can make sure that we are continuing the development of that technology, and keeping an eye on oil prices to understand that we can have those technologies ready when they can compete with oil in the marketplace.

Natural gas has to be an important part of the portfolio. We have more reserves of natural gas than we did in the late 1980's. This is a clean fuel, something that we can work together to enhance our power generation capabilities, in particular, in this country, and encourage the development and use of those same gas fired technologies worldwide.

As we have talked about before, the threat of China, Indonesia, India, and other countries, as they expand their own electric-generation capabilities, doing so with conventional technologies, and not the clean-coal technologies that we are at the leading edge of developing in this country, is a frightening thought to me.

So to return to your question, and I apologize for answering it in a broad way, I think it needs to be a balanced portfolio, keeping in mind the budgetary constraints that we are under to maintain that kind of balance.

OIL SHALE

Senator BENNETT. I have a particular interest, coming from Utah, where we have oil shale and tar sands of amounts that some people have suggested exceed all of Saudi Arabia long since, but

technologically, we cannot get the energy out of it, unless the price of oil goes to \$40, \$50, or \$60 a barrel.

Ms. GODLEY. Right.

Senator BENNETT. Is that an area where you are working on these kinds of technologies, or is that something that will be sacrificed with some budget cuts?

Ms. GODLEY. That is not something that we are working on currently. As you pointed out, the economics of actually finding and producing that oil is so expensive that it really places it outside of our current portfolio, as we project oil prices to rise.

I mean we need to keep our eye on that, and make certain that we will develop that resource in time, so that it can be used when it will be economical to do so.

OIL DEMONSTRATION PROGRAM

I would point out, in your own State, though, you have also significant conventional oil supplies, and one of our big success stories in connection with our oil program has been in some of the fields in Utah, where our oil demonstration program has demonstrated water flooding.

The producer involved in that project, which is LOMAX Exploration Co., has now successfully applied that technology. It will be applied by many other producers in technology transfer efforts, and will result in increased royalties and taxes to the Federal Government to the levels that will pay for all of that class 1 program.

So the technologies that we are using today and helping to demonstrate are already increasing the production from your State significantly.

FOSSIL ENERGY FUNDING PRIORITIES

Senator BENNETT. Over the coming weeks, would you provide the committee and staff more detailed information on the Department's specific priorities, assuming an overall reduction in fossil R&D funding?

Ms. GODLEY. We will work with you on that.

Senator BENNETT. The Department should consider possible reductions of anywhere from 5 to 30 percent in fiscal year 1996, with further reductions possible toward the end of the budget planning period.

STRATEGIC REALIGNMENT

Now, what is fossil R&D's role in strategic alignment? What savings will the program be expected to achieve over the next 5 years?

Ms. GODLEY. We don't have a target number for our program or for any other program, to my knowledge, in the process.

As you know, the Secretary of Energy, when she established our strategic plan early on in the administration, included as part of that plan the next step, which is what we are involved in now, the strategic alignment. It is a process being undertaken by Federal employees from the Department of Energy, under the guidance of a consultant.

The strategic alignment employees are grouped in teams, and will make recommendations to the Secretary, with respect to both

headquarters, streamlining, and downsizing, and making our headquarters operations more efficient, a heavy focus on that, with the idea of moving operations from headquarters to the field for the execution of programs, but also consolidating duplicative activities within our field sites.

The Secretary mentioned, as an example, that in the Denver area, we have five separate Department of Energy offices operating independently of one another.

That is an example of an area where we are looking at can we possibly eliminate some redundant things, at least in the administration and management of those kinds of facilities.

I will tell you that as was true from the beginning of this process, these teams are looking at every aspect of the Department of Energy.

The Secretary, as you know, is committed to significant savings, additional savings over our currently projected savings resulting from that alignment. There will be significant downsizing of the Department as a result.

Specifically where that will occur and what numbers, there are no targets, to my knowledge, by the teams yet.

I might add that the Secretary, of course, will be the final decisionmaker with respect to what the alignment will bring about to the Department of Energy, and she, I'm certain, will take some of the recommendations of the alignment teams, and make some decisions of her own. They will be hard decisions, and there will be some significant cuts.

TRADE AGREEMENTS WITH OTHER COUNTRIES

Senator BENNETT. For technologies developed with your support, what safeguards exist to see that these will not simply be appropriated by foreign-owned firms and used to manufacture goods offshore?

Ms. GODLEY. There are many legal safeguards that we have, including, and I'm not as skilled in answering with respect to our trade agreements with other countries, but there are many legal protections in our international agreements from country to country.

We also focus in our own programs on maintaining or making certain that the industrial participants, or the private sector participants, have protectable license rights to the technologies that they developed, so that the legal protections will ascribe to those technologies.

RESEARCH AND DEVELOPMENT INVESTMENTS IN JAPAN

Senator BENNETT. You told about the disparity between this country and other countries, saying, for example, that Japan spends three times as much. Is that number a governmental number, or does it include private R&D investment?

Ms. GODLEY. That is a governmental number that we have taken from OECD records. I might make certain that I spoke clearly. It is three times, as a percentage of the gross domestic product.

I'm not certain how they calculate that, but it's not a pure dollar equivalent, or three times the amount of money, but it's three times, as a percentage of the gross domestic product.

Senator BENNETT. I see. There's a possibility that there is more money being spent in the United States, because our economy is substantially larger than the Japanese economy.

Ms. GODLEY. It's possible. I don't know the answer to that, but we can provide that information.

[The information follows:]

U.S. VERSUS JAPANESE FUNDING OF ENERGY TECHNOLOGIES

As a percentage of GDP Japan spends three times what the U.S. does on energy research and development. On the basis of absolute dollars the Japanese government invests twice what the U.S. government does in energy research. This is based on an International Energy Agency report with specific definitions for what constitutes research and development. For example in 1993 Japan invested \$5.035 billion and the U.S. invested \$2.36 billion. It is interesting to note that until recently Japan spent approximately the same as the U.S. The increase was due to increased investment in nuclear energy for which Japan invests \$4.3 billion and the U.S. \$450 million. In the area of coal research Japan invested \$280 million and the U.S. government \$260 million.

DOMESTIC ENERGY SUPPLY

Senator BENNETT. Yes; if you can, without undue hardship. I have one final question that is an unfair question to ask you, but I will do it anyway, because you are in a position to at least hear conversations around the Department, even though this is not in your specific area of responsibility.

When you say 85 percent of our energy comes from fossil fuel, I am assuming the other 15 percent is a combination of hydropower and nuclear power.

Ms. GODLEY. And some renewables, as well.

Senator BENNETT. What do you mean by renewable?

Ms. GODLEY. Some solar.

Senator BENNETT. Oh. I see.

Ms. GODLEY. I mean it's a very small percentage.

Senator BENNETT. As I said, here is the unfair question, because it is not your area of responsibility, but are there any plans to expand either nuclear or hydroelectric activities?

Ms. GODLEY. Not to my knowledge, Senator.

Senator BENNETT. Is that for environmental reasons?

Ms. GODLEY. Principally, yes. Well, actually, let me take that back. I think the principal reason for that is that when you look at the challenge of meeting our continuing energy or increasing the energy demand, there are really two ways to address the problem.

One is to continue to invest in the development of our domestic energy supply portfolio, which includes not only 85 percent of coal, natural gas, and oil, but our renewable energy supplies as well, everything that we might be able to use to produce energy in this country, including nuclear and hydroelectric supplies, and hydropower supplies. That is one-half of the equation, or part of the equation.

The other half, which is equally effective to address, with respect to our energy security, is the energy efficiency part of the equation.

This administration, addressing energy efficiency, also addresses the environmental problem. Obviously, the less energy you consume, the less environmental impact you will realize.

So this administration is focusing, trying to get the biggest bang for the buck, and has made the decision that our investment will yield more results in the area of fossil energy, supplies, investment there, as well as in energy efficiency and some renewables.

Senator BENNETT. Thank you. I will yield to the Senator from West Virginia.

Senator BYRD. Thank you, Mr. Chairman.

STRATEGIC REALIGNMENT

Ms. Godley, for fiscal year 1996, the Department of Energy is proposing a significant realignment within the program direction portion of the fossil energy budget. Because of my interest in seeing that the Morgantown Energy Technology Center is maintained as a center of excellence in the work it is doing in the areas of advanced power systems, natural gas research and development, fuel cells, and advanced research and environmental technology, I am concerned about the effect of the proposed realignments on the future of METC.

PROGRAM DIRECTION FUNDING FOR MORGANTOWN ENERGY TECHNOLOGY CENTER

What is the basis for reducing the program direction funding for the Morgantown Energy Technology Center by \$6.7 million, or 24 percent?

Ms. GODLEY. The reduction of program funding for METC is guided by the same rationale or same motive, where we are trying to reduce program funding across the Department of Energy.

I will mention to you that the way we make decisions about budgets and funding in the Office of Fossil Energy is through sort of an advice and consent process of an executive board, in which the directors from each of our energy technology centers as well as our management officials from headquarters work together to establish our budgeting numbers.

So I will say that METC has made great progress under a very strong and vocal leadership to bring the budget numbers down at METC, and has been very successful at doing that. I have been assured by management at METC that these are numbers that will not interfere with their program direction.

Senator BYRD. Well, that does not answer my question. What is the basis for reducing the program direction funding for the Morgantown Energy Technology Center by \$6.7 million, or 24 percent?

Are you assuming unspecified and unidentified savings and efficiencies in contractor operations?

Ms. GODLEY. That is something that the deployment of the funds—it's something that was decided by the energy technology center itself, so I could not give you a line-item breakout of how those reductions will be taken.

Senator BYRD. Are you saying that METC is recommending a 24-percent cut?

Ms. GODLEY. They were part of the decisionmaking process in which those numbers were reached. Yes, sir.

Senator BYRD. But are they recommending a cut of that dimension?

Ms. GODLEY. I do not think that you will find any program manager that will recommend cuts of the magnitude that we are making. Everybody would like to have more money to run their programs, but I have heard no disagreement or complaint about that number from METC. In fact, the director and other managers from METC, like all of our managers, participate in the budgeting process.

Senator BYRD. I understand that, but that is still not the answer to my question.

Ms. GODLEY. That will be implemented at the center. I cannot give you a line item breakout of it today.

Senator BYRD. But what is the basis for reducing it by 24 percent?

Ms. GODLEY. It was a target number, as we work with target numbers throughout our programs, including our programmatic elements.

We look at the amount of money that is allocated to the Office of Fossil Energy, look at our programs that we want to continue, and reach the goals, and find out how much money we need to actually implement those programs, and tighten our belts. That is what we are doing across the board.

Senator BYRD. So what is the target number, 24 percent?

Ms. GODLEY. If that is the number, and I am sure it is. That was the target number that was reached in the budgeting process.

Senator BYRD. Was that target number used at Bartlesville, OK?

Ms. GODLEY. I don't recall. My recollection of the meetings in which we set this number was not as precise a process as one might hope. It was more of what can you do for the money we have, is this possible, will it hurt your programs?

So there was not an attempt to draw equivalencies, or punish one center over another, or reward one center over another. It really was a concerted and I think responsible effort to use the money that we had allocated to the office in a way where we could accomplish our programs, and I believe the budget does that.

Senator BYRD. All right. Supply for the record the answer to my question.

Ms. GODLEY. I will do that.

Senator BYRD. What is the basis for reducing the program direction funding of the Morgantown Energy Technology Center by \$6.7 million, or 24 percent?

Ms. GODLEY. And the basis that you are looking for in how it would—are you asking from where those cuts will come, or the program reason for doing it?

Senator BYRD. Do you understand what basis means? What are the reasons for reducing it by 24 percent? How did you come up with that number?

Ms. GODLEY. Well, there was no mathematical formula used, Senator. I think that I have answered the question as best I can, which is to say that, basically, our whole executive board got in a room together, looked at the numbers that we had, figured what

we could get by with, literally, and that is how we divvied out money that we have.

Senator BYRD. I still want to know what is the basis, if you will supply that for the record.

Ms. GODLEY. I will attempt to do so.

Senator BYRD. I may want to question that.

Ms. GODLEY. OK. I will try—I will do my best.

Senator BYRD. I may want to ask the people at METC what they think.

Ms. GODLEY. Actually, I will ask the people at METC——

Senator BYRD. But I will, too.

Ms. GODLEY. And they will supply the answer.

Senator BYRD. We will, too.

Ms. GODLEY. They'll have to give me the answer.

Senator BYRD. So please supply that for the record.

Ms. GODLEY. I'll do it.

[The information follows:]

MORGANTOWN ENERGY TECHNOLOGY CENTER PROGRAM DIRECTION

Although a reduction in funding from the fiscal year 1995 level will reduce our ability to fully operate the sites as well as support the R&D mission of the Centers, we are currently exploring ways to provide first class support of the R&D mission at each of the sites with lower expenditures. We are attempting to streamline operations and wherever possible to improve efficiency in the way all jobs are done. We are very hopeful that with these initiatives we can minimize the impact of the proposed reductions.

Each site has been given target level reductions for federal and contract sites. These targets and the streamlining initiatives were recently outlined in the Secretary's streamlining proposal which has been submitted to the Congress. In summary, the ETC's and METC and PETC are to implement a proposal to combine administrative staffs, review all support contract requirements, and use approved buyouts to reduce site costs in fiscal year 1996 and fiscal year 1997. The Department is committed to reducing all its costs, both programmatic and administrative, in order to respond to the wishes of both the Congress and the American people to make government work more efficiently.

PROGRAMMATIC RESPONSIBILITIES AT MORGANTOWN ENERGY TECHNOLOGY CENTER

Senator BYRD. Have the programmatic responsibilities of METC decreased to justify such a proposal?

Ms. GODLEY. Programmatic responsibilities, in fact, have increased at METC. Again, I have to congratulate the strong, good, and sound management at that center for taking on that work and doing more with less, which is what we are trying to do across the entire administration.

Senator BYRD. The fiscal year 1996 proposed budget for METC is \$211 million, a slight decrease of 2.5 percent from the fiscal year 1995 estimate of \$217 million for Fossil Energy research and development.

A program direction decrease of 24 percent seems to me to be way out of line, given a relatively level program budget. What would be the effect of the proposed \$6.7 million reduction in program direction on operations at Morgantown?

Ms. GODLEY. I think that there will be many consequences of that. And, again, this is within the responsibility of the managers at Morgantown to implement, and they are doing it very expertly and responsibly.

Certainly, as we will do and are doing across the entire Department of Energy, it will result in the reduction of contractor work force there.

There is a wide variety of estimates on how many contractors would be reduced, depending on how much money is allocated, but it certainly will result in some reduction of force, not in the technical sense used in the Federal Government, but a fewer number of contractor employees.

Senator BYRD. To what extent would Federal and contract personnel be affected?

Ms. GODLEY. I do not know the answer to that, sir.

Senator BYRD. Could you supply that for the record, please, and elaborate as best you can on what the effect will be.

Ms. GODLEY. Yes; I will.

[The information follows:]

REDUCTION OF PROGRAM DIRECTION FUNDS AT THE MORGANTOWN ENERGY TECHNOLOGY CENTER

As presented in the President's Budget for fiscal year 1996, Federal employee costs are fully funded. The area targeted for reduction is "Contract Services." A reduction in onsite contract services of approximately 48 percent would result in layoffs of about 130 to 150 contract personnel employed at the Morgantown Energy Technology Center [METC] in West Virginia.

REDUCTIONS AT MORGANTOWN ENERGY TECHNOLOGY CENTER

Ms. GODLEY. Yes, sir.

Senator BYRD. Given that the fossil energy research budget for Morgantown is proposed at a relatively stable level in fiscal year 1996, how would METC be able to fulfill its mission if reductions of the magnitude you are suggesting were imposed?

Ms. GODLEY. Well, Senator, I am not certain what the problem is, to be honest with you. METC is fulfilling its mission. It is superb in its management of projects. We do repeated customer surveys to determine its work—

Senator BYRD. I agree with you, but what I am asking you—

Ms. GODLEY [continuing]. And the managers there certainly have not suggested that they cannot carry out their programs with equivalent excellence with the money that they have.

Senator BYRD. Well, the question is: How would METC be able to fulfill its mission—the question is not whether or not it is fulfilling its mission now. How would it be able to fulfill its mission if reductions of the magnitude you have suggested are imposed?

Ms. GODLEY. Through continued excellence in management.

Senator BYRD. Will reductions in the program operations at METC have to be imposed in order to address the shortfall in operating funds?

Ms. GODLEY. I am sorry?

Senator BYRD. Will reductions in the program operations at METC have to be imposed in order to address the shortfall in operating funds?

Ms. GODLEY. Would the programs themselves have to be reduced?

Senator BYRD. Will reductions in the program operations—

Ms. GODLEY. The programs will not need to be reduced. I think METC can handle it.

Senator BYRD. What about the support, though, the support aspect?

Ms. GODLEY. I am sorry. I am not following your question.

Senator BYRD. All right. Let us imagine that the upper three-fourths of this is represented by the program research—

Ms. GODLEY. Project management and so forth.

Senator BYRD [continuing]. And then the bottom fourth is represented by support, utilities, et cetera, et cetera.

What I am asking is: Would this upper part—would reductions in the program operations have to be imposed in order to address the shortfall in operating funds?

Ms. GODLEY. I do not believe so, Senator.

Senator BYRD. What about the lower part?

Ms. GODLEY. Yes; probably.

BARTLESVILLE PROJECT OFFICE

Senator BYRD. The budget describes that program direction funds will now be used to support funding for the management and operating contract at the Bartlesville project office.

How are costs for the management and operating contract at Bartlesville being funded in fiscal year 1995?

Ms. GODLEY. I believe that they are still—let me start over. The M&O contract approach to managing our oil program was instituted by the prior administration.

We put the contract into effect in accordance with that determination, I think it was beginning January 1994, was the actual contract—or the 1993 year was spent in transitioning into the M&O contract.

My understanding is that the original budget numbers for the M&O contract were included in the budget description of the oil program itself, so that you really could not find, unlike with Morgantown or Pittsburgh, a line item in the organizational funding portion of the budget for BPO.

I wanted to change that and make that a more visible number, and we have since shifted that in the 1996 budget. I think that is the first place we have done that. I think in 1995 it was in the oil program part of the budget.

Senator BYRD. So they are being funded out of the oil budget.

Ms. GODLEY. In 1995, I believe that is true, Senator. Yes.

Senator BYRD. So what is the basis for funding these costs differently in fiscal year 1996?

Ms. GODLEY. Again, I was uncomfortable with having them buried in the oil program numbers. I preferred to have them in the light of day, along with the management numbers for the other energy technology centers.

Senator BYRD. Why is not a corresponding decrease in the oil budget shown to reflect the costs at Bartlesville, rather than reducing Morgantown and Pittsburgh, to cover these costs?

Ms. GODLEY. I'm not certain I understand your question, but I think that we had increased the amount of the Federal investment they were making in our oil programs.

So if you take the Bartlesville M&O costs out of the oil program number, it still is not going to show a commensurate decrease, because we have added some investment in the oil programs, even

though we moved the management costs over to the administrative side of the budget. Is that responsive?

Senator BYRD. Well, by leaving the dollars in the oil budget, and taking away funds from Morgantown and Pittsburgh, you are really proposing a 226-percent increase at Bartlesville.

Ms. GODLEY. I do not follow that number, Senator. I am sorry.

Senator BYRD. You might not follow the number, but do you follow the process I am talking about?

Ms. GODLEY. No; there was no effort, as I think I mentioned earlier, to take money away from one piece of our program and give it to another. That was not the analysis that we went through.

We went through the analysis, the programmatic analysis that I was discussing with Senator Bennett earlier, which was to try to put some priorities in our programmatic makeup, so that we were investing, instead of 25 percent of Federal dollars in the supply side of our technologies, and 75 percent in the use side of our technologies, we wanted a better balance of our portfolio.

We are now up to 40 percent investment on the supply side, 60 percent investment on the use side, particularly in power generation.

That was a programmatic decision that was separate from taking the money at Bartlesville out of—not being buried in the oil budget, and putting it in the program operating side.

Senator BYRD. Well, you indicated, in answer to my earlier question, that these costs for the management and operating contract at Bartlesville are being paid for out of the oil budget—

Ms. GODLEY. In 1995.

Senator BYRD [continuing]. In 1995.

Ms. GODLEY. Yes.

Senator BYRD. So in 1996, you are going to continue to leave the money—there is nothing coming out of the oil budget.

Ms. GODLEY. No; in fact, we have added money in, for programmatic reasons.

Senator BYRD. Right. But you are cutting Morgantown and Pittsburgh.

Ms. GODLEY. On the administrative side, do you mean, administrative costs, program management?

Senator BYRD. Well, are you not?

Ms. GODLEY. Yes; of course.

Senator BYRD. OK. By reducing them, you are not reducing Bartlesville, and you are leaving all that money in the oil budget, that is still there, and you are also increasing the request in the budget.

Ms. GODLEY. For our oil programs.

Senator BYRD. Well, are you not?

Ms. GODLEY. Yes. Yes.

Senator BYRD. So I am saying: Why is not the corresponding decrease in the oil budget shown to reflect the cost at Bartlesville, rather than reducing Morgantown and Pittsburgh to cover these costs?

Ms. GODLEY. The best answer I can give to your question is we did not reduce the money for Morgantown and Pittsburgh to cover the oil program.

Senator BYRD. But is that not the effect?

Ms. GODLEY. Well, we also reduced some investment in other programs. I mean it's not a direct correlation. But yes, we have reduced program management costs at Morgantown and Pittsburgh, and we have increased the oil programmatic investment that we are recommending, for all the reasons that I have said.

Senator BYRD. Your prepared statement says that support contracts at Morgantown and Pittsburgh will be reduced in order to show cost reductions and savings at the Department of Energy.

Ms. GODLEY. Yes, sir.

Senator BYRD. So why are not some of the reductions proposed for Bartlesville?

Ms. GODLEY. Well, they should be, to answer your question. We can do a lot better with our M&O contract than we are doing, I believe.

One of the problems that we are still working through, and we are working through them more quickly now, is the contract is still relatively young, and we are still working out the difficulties with it in just the implementation of it.

But I think just like, well, I do not think, I will tell you that we will have reductions across the Department of Energy, in all of our contractors, that will be significant, and that will include the M&O part as well.

Senator BYRD. Mr. Chairman, may I continue this line of questioning for a little while? Then I will yield to someone else.

Senator GORTON [presiding]. You certainly may Senator.

Senator BYRD. What is the basis for proposing such significant growth, \$7.6 million, or 226 percent, in the Bartlesville, OK, project office, in view of the budget outlook for the coming years?

Ms. GODLEY. I do not believe that we have increased the costs of managing Bartlesville significantly, if any, from 1995 to 1996. All we have changed is where we put it in the budget.

And, again, I wanted to take it out of the oil program budget item line, because it was buried there and not visible, and I wanted it to be visible to our appropriating committees as well as to our project managers, so I moved it to a visible line, along with the energy technology centers program oversight costs.

Senator BYRD. Let me see if I can clarify this. The budget outlook for the coming years is such, as we all know, that we are going to have to reduce items throughout the various departments and agencies all across government.

So what I am asking is this: What is the basis for proposing such a significant growth, \$7.6 million, or 226 percent, in the Bartlesville, OK, project, in view of this outlook? Do you expect additional accomplishments there which would justify this increase?

Ms. GODLEY. My best answer is we are not increasing it over 1995. It is the same amount of money that we were spending in 1995, but it just shows in a different place on the budget.

What we have done is propose to increase the amount of money that we are spending on projects, actual projects in the oil area, in the area of increasing our exploration and development, as we talked about earlier, the project in Senator Bennett's State, which has increased the royalties and Federal taxes, to a great degree, revenues into the Government.

Those are the kinds of projects that we are proposing to increase in the oil program, but not in program management or oversight. It is in the programmatic area.

STAFFING CONFIGURATION AT BARTLESVILLE PROJECT OFFICE

Senator BYRD. How has the staffing configuration, Federal and contractor, changed in Bartlesville since the management and operating contract was put in place?

Ms. GODLEY. I will have to supply the answer to that for the record, with respect to how it has changed. What it is today, we have about 27 Federal employees at Bartlesville, and about 200 M&O contractor employees at Bartlesville. How that has changed from prior years, I will have to supply for the record.

Senator BYRD. The "about 200," to quote your answer, represents about a 100-percent increase, does it not?

Ms. GODLEY. No, sir.

Senator BYRD. Has it not increased from about 80 to 100, to about 180 to 200—

Ms. GODLEY. I do not believe that is the case, sir.

Senator BYRD [continuing]. Which is about double?

Ms. GODLEY. I do not believe that is the case, but I will have to supply it for the record, and I will do that.

[The information follows:]

BARTLESVILLE STAFFING CONFIGURATION

At the start of fiscal year 1983, the Bartlesville facility was defederalized. The Department farmed-out the operation of the facility to the IIT Research Institute (IITRI) for operation under a cooperative agreement. The Department guaranteed the a base budget of \$5 million per year in research tasks and required the new operator to acquire the remainder of the funds necessary to keep the facility open through marketing services to others. The Oil Program was small at that time and was being implemented by a small staff of federal employees at the Bartlesville Project Office (BPO).

In fiscal year 1990, the Department placed a priority on oil supply research and the expectations of significant growth in the program caused the Department to look at alternative ways to implement the increasing program without increasing the federal staff at BPO. It was determined that a management and operating (M&O) contract would be put in place to handle the additional workload. Three years later in December 1993, the M&O contractor took control of the operation of the Bartlesville facility. By then, the average contract workload of the federal project managers at BPO had risen to approximately 3 times that recommended by good contract administration practices.

There were 24 FTE federal employees at BPO supported by 16 support service contractor personnel (non IITRI personnel). IITRI employed 163 personnel at the site in research activities. Under the cooperative agreement, IITRI employees could only perform in-house research and could not implement the Oil Program. The Oil Program budget had grown to \$74 million, almost 3 times what it was at the time the decision was made to operate the Bartlesville facility and implement the Oil Program utilizing an M&O contractor.

The M&O contractor performs on-site research as did IITRI. However, they perform the following additional work: (1) all support services, (2) implementation of significant assigned portions of the Oil Program through sub-contract, (3) the added load of operations under the full requirements of DOE Orders, (4) assistance in program planning, and (5) an increased level of in-house research. To accomplish the added work assigned under the M&O contract, employment at the site has gone from 179 to 242 exclusive of BPO. The federal FTEs at BPO have decreased by 1, to a level of 23, making the overall personnel increase at the site 62 (a 30 percent increase), while experiencing a growth of approximately 300 percent in the program and adding the responsibility for operation of the facility under all DOE Orders.

FOSSIL ENERGY TECHNOLOGIES

Senator BYRD. All right. How do you justify such a program expansion at a time when Federal employees are being reduced?

Ms. GODLEY. Programmatic expansion or are you talking about other programs.

Senator BYRD. I am talking about the expansion. How do you justify it, when Federal employees are being reduced?

Ms. GODLEY. As I stated earlier, the time when it is appropriate to invest Federal dollars in research and development of technologies in the energy area, in my view, and in the view of the Department, is in those areas where industry cannot or will not invest technology in an area of important national concern.

Again, when I came into office, when the administration came in, our budget in the Office of Fossil Energy focused 75 percent of its resources in fossil use technologies, and only 25 percent on supply-related technologies.

In the meantime, we have been—our dependence on oil imports, now at 50 percent, is projected to increase to 60 percent. We thought it was prudent to increase our investment on the supply side of the technologies, so that we could help offset, or at least decrease, the amount of dependence that we have on oil imports.

That is the programmatic reason for investing more in the supply side of our technologies.

Senator BYRD. Was such exponential growth at Bartlesville contemplated when this contract was implemented?

Ms. GODLEY. I do not know, sir. I was not here. Again, I do not think the growth has been exponential, my personal belief is, and, again, I will check it for the record, over prior employment at the site.

Senator BYRD. Well, we will not quarrel over the word. We will strike exponential. But the question is: How do you justify this contract as being in the best interest of the Government, if we have that kind of growth? It may not be exponential growth—

Ms. GODLEY. Again, I was not here, and, in fact, this administration was not here when the decision to take on an M&O contractor at that site was made.

I have been told that the reasons for it, and I have questioned this, and have raised this very same question, Senator, and we are working on that contract, and on the management of that center—

Senator BYRD. Well, the administration is here now and the administration sent up the budget.

Ms. GODLEY. And we are working on it as well as we can.

Senator BYRD. So what I want to know is: How do you justify such program expansion now?

Ms. GODLEY. Well, if you are talking about the program itself, I think I have given the best justification I can for it. If you are asking about how much money we are spending on the M&O contractor, my answer is we are spending too much, and we need to work on it.

Senator BYRD. Well, I am asking at the moment about the number of people, and the growth in the number of employees—the contract work force.

Ms. GODLEY. Again, I do not agree that there has been that significant a growth. If there is, I will supply that for the record and answer your question, is it justified, and if so, how.

Senator BYRD. All right. Mr. Chairman, you have been very generous with me. I do not want to impose on your generosity. I will desist for the moment and come back.

Senator GORTON. Thank you, Senator Byrd, because I must be on the floor at 10:30 a.m., but I in no way want to limit the questions on the subjects in which you are—

Senator BYRD. Well, you have been very generous. Before I stop at this point, the lady who is a witness here is very, very capable.

Senator GORTON. She certainly is.

Senator BYRD. She comes with some broad experience. I admire her for that. She was having just a little bit of trouble answering some of these questions. Perhaps it is because of the way the questions are put, so I will take the blame for that. I will stop for now and resume a little later.

Senator GORTON. All right. We will come back to you.

CLEAN COAL TECHNOLOGY PROGRAM

I wanted to ask one set of questions about clean coal. We understand from the Department that it is scheduled to make critical go/no-go decisions this year on, I believe, 13 of the 24 active projects in the Clean Coal Program. But we also understand that similar go/no-go decisions have been delayed that were due earlier.

Is there a point at which the Department says enough is enough, and just simply makes the decision to terminate a project?

Ms. GODLEY. Yes; there are points; in fact, more than one in each project. If I could step back a second and describe the way the Clean Coal Program works.

Each one of the projects has different budget periods. At the end of each budget period, the first period might be project design, the second might be project construction, and the third might be operations.

Before we can go on into the next budget period, the participant has to file a continuation application. That continuation application has to show that the participant has met all of the programmatic performance criteria of the first budget period, and has satisfied those criteria before we will commit more dollars to go into the next program period. That is our control, really, on the investment of Federal dollars.

Senator GORTON. Would you submit to the subcommittee the list of extensions, more or less the history of each of these 24 projects, and when they have been extended, and when these decisions have not been made timely, the reasons for each of them?

Ms. GODLEY. Yes; we will. Certainly. If I could add to that answer, we are—some of the opening remarks and others have suggested that the Clean Coal Program may not be alive and well, and looked at, in particular, our budget request for 1996.

I just wanted to set the record straight that the Clean Coal Program is alive and well, it is being responsibly managed, and will be more stringently managed in the future, in light of our budgetary constraints.

That is not to say we intend to change the criteria in the program; for example, continuing on a continuing application.

Because we are under contracts and agreements with our project participants, we feel like we cannot do that, but we can certainly apply those contracts to the letter, which we intend to do.

Also, the program was designed, as members of this subcommittee know personally, understanding that these are high-tech technologies, high-risk technologies. Not all of these projects are going to make it.

We expect, in our programmatic criteria, a range of dollars that will not be needed to complete all of the projects that continue in the programs, and that programmatic, as a probabilistic study, has an upward range of \$300 million, uncertain. I mean these are high-risk, long-term technology developments.

We are comfortable with the budget numbers that we have requested. We are comfortable with the continuing success of this program. We are already having successes.

I am pleased to say that the Clean Coal Technology Program, unlike many other research and development programs, has a provision that when those technologies are successful and are deployed into the marketplace, the participant pays back the money the Government invested.

So we have every reason to continue to capitalize on this investment, not just to get paid back our money, but to realize these important clean coal technologies, so that we can have the clean electric power, new power generation that we will need after the turn of the century.

Senator GORTON. And you have had great participation by the private sector, which indicates a great confidence on the part of the private sector on the outcome of it.

Ms. GODLEY. In fact, it has \$2 of private sector investment for every dollar of Federal investment. It is a little over 63 percent.

Senator GORTON. Thank you for that report. It is important to the subcommittee, and I know it is important to Senator Byrd.

Ms. GODLEY. Thank you.

[The information follows:]

CLEAN COAL TECHNOLOGY PROGRAM

LIST OF TIME EXTENSIONS GRANTED TO ACTIVE PROJECTS

CCI-I Solicitation

Project: York County Energy Partners CFB Cogeneration Project

Participant: York County Energy Partners, L.P.

Extension Duration (Months)/Reason (Date)

- 4/To Complete Project Definition (8/91)
- 6/To Complete Project Definition (12/91)
- 4/Site Change, Participant Change (6/92)
- 8/Project Definition at new Site (6/93)
- 4/To Complete NEPA Process (9/94)
- 5/To Complete NEPA Process (1/95)

Project: Advanced Coal Conversion Process Demonstration

Participant: Rosebud SynCoal Partnership

Extension Duration (Months)/Reason (Date)

- 20/To Allow Process Modifications & Extension of Demonstration Testing to Enhance Commercialization Potential (4/94)

CCI-II Solicitation

Project: PFBC Utility Demonstration Project

Participant: The Appalachian Power Company

Extension Duration (Months)/Reason (Date)

- 6/Evaluation of Impact of CAAA Revisions (4/91)
- 1/DOE Evaluation of Continuation Application (11/91)
- 2/DOE Evaluation of Continuation Application (12/91)

Project: Demonstration of Innovative Applications of Technology for the CT-121 FGD Process

Participant: Southern Company Services, Inc.

Extension Duration (Months)/Reason (Date):

- 7/Project Execution (2/92)
- 2/Project Execution (11/92)
- 6/Project Execution (3/93)
- 3/Project Execution (7/93)
- 4/Project Execution (9/93)

Project: Combustion Engineering IGCC Repowering Project

Participant: ABB Combustion Engineering, Inc.

Extension Duration (Months)/Reason (Date)

- 1/To Complete Continuation Application Submittal (11/91)
- 6/Evaluate Reasons for increase in Cost Estimate (12/92)
- 1/Evaluate Alternative Site (6/93)
- 2/Evaluate Alternative Site (7/93)
- 1/Evaluate Alternative Site (9/93)
- 2/Evaluate Alternative Site (10/93)
- 3/Evaluate Alternative Site (12/93)
- 2/Evaluate Alternative Site (3/94)
- 3/Evaluate Alternative Site (5/94)
- 2/Evaluate Alternative Site (8/94)
- 5/Evaluate Alternative Site (10/94)

CCT-III Solicitation

Project: Commercial Scale Demonstration of the Liquid-Phase Methanol Process

Participant: Air Products & Chemicals, Inc.

Extension Duration (Months)/Reason (Date):

- 2/Review and Approval of Alternative Site (1/93)
- 3/Review & Approval of Continuation Application (9/93)
- 1/Review & Approval of Continuation Application (1/95)

Project: Healy Clean Coal Project

Participant: Alaska Industrial Development and Export Authority

Extension Duration (Months)/Reason (Date):

- 18/Completion of Project Definition & Environmental Review (7/94)

Project: Blast Furnace Granulated Coal Injection System

Participant: Bethlehem Steel Corporation

Extension Duration (Months)/Reason (Date):

- 1/Project Execution (2/91)
- 7/Project Execution (10/91)
- 9/Project Execution (5/91)
- 6/Project Execution (9/92)
- 2/Project Execution (3/95)
- 6/Project Execution (4/95)

Project: Tampa Electric Company Integrated Gasification Combined-Cycle Project

Participant: Tampa Electric Company

Extension Duration (Months)/Reason (Date):

- 21/Novation, site change, technology change, capacity increase (3/92)

Project: PCFB Demonstration Project

Participant: DMEC-1 Limited Partnership

Extension Duration (Months)/Reason (Date):

- 1/Post Award Reconciliation Due to Congressional Review Cycle (10/91)
- 6/To Change Project Site (3/95)
- 1/Delay Due to Mid-West Floods (6/93)
- 2/Delay Due to Mid-West Floods (7/93)
- 1/Delay Due to Mid-West Floods (9/93)
- 4/Delay Due to MidWest Power Co. Merger Forcing Reevaluation of Project (10/94)
- 1/To Allow Submittal of Restructured Project (2/95)

Project: ENCOAL Mild Coal Gasification Project

Participant: ENCOAL Corporation

Extension Duration (Months)/Reason (Date):

- 1/To Finalize HQ Review/Approval of Extended Testing (9/94)
- 24/Extended Test Operations to Enhance Commercialization Potential of Technology (11/94)

Project: Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System

Participant: NOXSO Corporation

Extension Duration (Months)/Reason (Date):

- 12/Project Definition (3/92)
- 5/Project Definition (3/93)
- 12/Project Definition (11/93)

Project: Integrated Dry NO_x/SO₂ emissions Control System

Participant: Public Service Company of Colorado

Extension Duration (Months)/Reason (Date):

- 2/Project Execution (2/92)
- 12/Process Improvement Modification (11/94)

CCT-IV Solicitation:

Project: Pinon Pine IGCC Power Project

Participant: Sierra Pacific Power Company

Extension Duration (Months)/Reason (Date):

- 6/Completion of NEPA Process (12/93)
- 2/Completion of NEPA Process and Definitive Estimate (3/94)

Project: Wabash River Coal Gasification Repowering Project

Participant: Wabash River Coal Gasification Repowering Project Joint Venture

Extension Duration (Months)/Reason (Date):

- None

Project: Self-Scrubbing Coal: An Integrated Approach to Clean Air

Participant: Customs Coal International

Extension Duration (Months)/Reason (Date):

- 3/Project Execution (5/93)
- 2/Project Execution (7/93)
- 1/Project Execution (9/93)
- 1/Review of Continuation Application (10/93)

Project: Milliken Clean Coal Technology Demonstration Project

Participant: New York State Electric & Gas Corporation

Extension Duration (Months)/Reason (Date):

- None

Project: Micronized Coal Reburning Demonstration for NO_x Control on a 175 MWe Wall-Fired Unit

Participant: Tennessee Valley Authority

Extension Duration (Months)/Reason (Date):

- None

Project: Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal

Participant: ThermoChem, Inc

Extension Duration (Months)/Reason (Date):

- 4/Project Definition (9/93)
- 12/Project Definition at New Site and Complete Design Verification Tests (11/93)
- 3/Complete Continuation Application (1/95)
- 5/Completion of Project Definition at 2nd New Site (3/95)

CCT-V Solicitation:

Project: Warren Station EFCC Demonstration Project

Participant: Pennsylvania Electric Company

Extension Duration (Months)/Reason (Date):

- 4/Project Definition (1/95)

Project: Coal Diesel Combined-Cycle Project
 Participant: Arthur D. Little, Inc.
 Extension Duration (Months)/Reason (Date):
 - None

Project: Clean Energy Demonstration Project
 Participant: Clean Energy Partners, L.P.
 Extension Duration (Months)/Reason (Date):
 - None

Project: Four Rivers Energy Modernization Project
 Participant: Four Rivers Energy Partners, L.P.
 Extension Duration (Months)/Reason (Date):
 - None

Project: Clean Power From Integrated Coal/Ore Reduction
 Participant: Centor Energy Corporation
 Extension Duration (Months)/Reason (Date):
 - None

STRATEGIC PETROLEUM RESERVE

Senator GORTON. Has the administration's proposal on the strategic petroleum reserve been introduced into either House of Congress?

Ms. GODLEY. I believe it has not yet been introduced.

Senator GORTON. But you have submitted what you want in the form of legislation, correct?

Ms. GODLEY. Yes.

Senator GORTON. Do you have any indication as to the reaction of the authorizing committees?

Ms. GODLEY. I think it is ambivalent, currently. I think that the authorizing committees have the same dilemma that we faced, and understanding that the important criteria for the strategic petroleum reserve currently is to make certain that our current reserves are secure, and will be available, if we should need them.

That includes the Weeks Island situation, that I think that you are aware of.

Senator GORTON. Yes.

Ms. GODLEY. We have a sink hole problem at Weeks Island. We need to move that oil. That is a one-time cost. It is a significant cost, but a one-time cost.

It is those sorts of activities that we really need to address, in looking at a declining Federal budget. How are we going to pay for those important activities?

Senator GORTON. Well, that leads me to my follow-up question. If you do not get that authorizing legislation, and do not get more money, what will you do?

Ms. GODLEY. Well, we have several steps that we would have to take, but we would not interfere with the movement of Weeks Island oil, so that we can secure that site in Louisiana.

We would have to delay some of our site correction activities, reduce some of our security costs, although, not below minimum Fed-

eral standards. So it would have a significant programmatic impact, but I believe it is something that we, with pain, can absorb.

Senator GORTON. How much new budget authority do you believe you will be required by fiscal year 1997, if it is authorized, and how much of it is not authorized?

Ms. GODLEY. If the sale is authorized?

Senator GORTON. Yes.

Ms. GODLEY. If the sale is authorized, our current projection is that we would need new budget authority in fiscal year 1997, in the range, of between \$238 million and \$242 million, with the amount of money we would get from the sale of oil.

Senator GORTON. And if the authorization did not pass?

Ms. GODLEY. I think you can tack on the amount that we did not get in the course of the sale.

NAVAL PETROLEUM AND OIL SHALE RESERVES

Senator GORTON. OK. What is the reason, or give me an explanation for the Department's position that a government corporation for the naval petroleum and oil shale reserves is necessary as a bridge to a private sale?

If you have such a corporation for 1 year or so, what is it going to do? Is that going to cost more? Are you better off going directly to privatization without the intervening government corporation?

Ms. GODLEY. That is a very good question, Mr. Chairman. The Department has listened to its authorizing committees, and to other witnesses who have appeared to testify on the issue of the need for petroleum reserves.

The proposal that we are currently reaching agreement on within the administration is to flip the proposal. The reason for proposing the corporation, to begin with, was because there are three instances in which the reserves might not be sold.

I want to be clear that the administration's first objective is to divest the Federal Government of these non-Federal activities.

But there are three events that might prevent this from happening. All that sort of swirls around the fact that this will not be a fire sale. We are not going to sell these reserves at just any cost.

So a lot of factors could intervene, for example, the primary one is when we determine what the net present value of those reserves, what they would be, if the Federal Government continues to operate the reserves.

If that is our base price, it could be that we would not be able to get that price in the marketplace, and then we would be required to continue operating those reserves.

We cannot operate those reserves as well as a private sector business can, for all the reasons that I know that you have read about and understand, principally because of the bureaucratic handcuffs that we have as a Federal Government agency.

The best we can do, if those reserves are held by the government, is to operate them as a wholly owned government corporation, in which we can more nearly approximate the private sector operation of those purely commercial activities.

So that was the reason for proposing a government corporation. We are working in the administration now toward agreement on doing the privatization activities first, and only in the event that

those do not move forward, then to have authorization in the legislation to proceed to a government corporation.

Senator GORTON. That sounds to me like a sound decision and course of action. I would approve, and I believe the Congress will encourage the fastest privatization possible, without giving it away.

Do you have any reason to feel that selling them in a relatively short period of time would not result in responsible and responsive bids?

Even if it is a short period of time, there must be a lot of people who would be interested in that oil.

Ms. GODLEY. I am only pausing, because I was not certain if I should say no or yes in response to the way you framed your question. We believe that there will be significant responsible bids offered for these properties.

Senator GORTON. All right. Fine. That is a response to my question. So I am going to go.

Senator Bennett, would you take over?

Senator BENNETT [presiding]. Sure will, indeed.

RESCINDING CLEAN COAL TECHNOLOGY FUNDING

We have just gone through, on this committee, a great rescission exercise, and produced all kinds of interesting comments in a variety of editorial pages about our ability to rescind funds.

The Department in the May 1994 report to the Congress, "Completing the Mission," estimated that between zero and \$300 million in funds appropriated for the Clean Coal Program will not be necessary.

Congress approved a rescission of \$200 million from the Clean Coal Program as part of the Department of Defense supplemental bill in this exercise we have just gone through, primarily based on your Department's estimate of these surplus appropriations.

Has the Department's estimate of funds required to complete the Clean Coal Program changed since the May 1994 report?

Ms. GODLEY. No, Senator.

Senator BENNETT. Does the Department's estimate factor in expected cost growth in projects that would be completed, or is cost growth in those projects to be financed from the \$300 million in surplus funds?

Ms. GODLEY. It includes projections of cost growth.

Senator BENNETT. How does the Department derive the estimate of cost growth?

Ms. GODLEY. There is a formula that we have applied in the course of, and, again, the phrase that we used to describe the process is a probabilistic study, and I would be glad to provide that formula for you for the record. I cannot articulate it here today.

[The information follows:]

CLEAN COAL TECHNOLOGY ESTIMATE OF COST GROWTH

A group of Government workers who are most familiar with each project convened and reached a consensus as to the likely needs for each project. Both field and Headquarters personnel were involved. The technique involves a judgement as to the most optimistic, most pessimistic, and most likelihood funding needs for each project. A risk profile was then fit to these estimates which was used to assess overall program needs. The results of this analysis was reported to Congress in May,

1994 in the Comprehensive Report "Clean Coal Technology: Completing the Mission."

HIGH-RISK TECHNOLOGIES

Senator BENNETT. OK. Given the \$200 million rescission recently enacted, how close are we to cutting it in terms of the Department's—how close are we to cutting the Department's ability to complete the currently selected projects, without having to terminate any projects for lack of funding?

Ms. GODLEY. Every dollar rescinded makes it harder for us to do it. We are comfortable, but the \$200 million figure is doable, understanding that this—we are talking, again, about high-risk technologies that take many years to develop, which is one of the reasons why the Federal Government is investing along with many industrial partners, as well as State regulating utilities and others.

So there is no one answer, no right answer to your question. I think the answer is, with every dollar rescinded, it threatens us more, but we are not uncomfortable with the \$200 million figure.

Senator BENNETT. Senator Byrd, my recollection is that you have some more questions.

Ms. GODLEY. Oh, keep going. [Laughter.]

Senator BENNETT. Sooner or later.

Senator BYRD. What did you say?

Ms. GODLEY. Sir?

Senator BYRD. What did you say? I did not hear you.

Ms. GODLEY. I said keep going.

Senator BYRD. Oh. [Laughter.]

Senator BENNETT. I told her that sooner or later we would get to your additional questions.

MORGANTOWN ENERGY TECHNOLOGY CENTER

Senator BYRD. What is the magnitude, in terms of dollar value, of the Fossil Energy Program work supervised by Morgantown, as compared with Pittsburgh and Bartlesville?

[Pause.]

Ms. GODLEY. I am sorry, Senator. Bear with me. I have it here somewhere.

Senator BYRD. All right. It is much easier to ask questions than it is to provide answers, is it not? Well, let us proceed to another question.

Is it not correct that Morgantown oversees program operations, in total, that are greater than the sum of the program operations at Pittsburgh and Bartlesville, combined?

Ms. GODLEY. I do not know if it is greater than both combined, but it is certainly more than either one of them.

Senator BYRD. Can someone on your staff verify my—

Ms. GODLEY. Senator, I do not think we have that information with us today. I apologize. But it is certainly more than either of those centers.

Senator BYRD. I believe it is greater than the sum of the program operations at both.

Ms. GODLEY. Are you speaking of 1996?

Senator BYRD. For fiscal year 1995.

Ms. GODLEY. 1995. OK.

Senator BYRD. 1995.

Ms. GODLEY. In the 1995 budget, it is about even. By our calculations, sitting here at the table, it has new budget funding authority in 1995 that is a little more than double METC and BPO.

Senator BYRD. Then why, given the magnitude of the program dollars overseen at the various facilities, is Morgantown proposed to decrease the most? Why is that?

Ms. GODLEY. I do not think there is a short answer to that question. Some of it is programmatic. Just as an example, Pittsburgh is also responsible for, or has lead responsibility for implementing the university coal research program for the historically black colleges and universities program, and many of our international activities support services to my own office and the trade initiatives of the Secretary and the Deputy Secretary.

But another big difference, I think, is that because of the nature of the programs implemented at Pittsburgh, for example, versus Morgantown, there are many more contracts of smaller dollar amounts managed out of Pittsburgh than out of Morgantown.

You really need, regardless of the size of the contract, it takes about the same amount of administrative effort to manage it.

I will say, also, that Pittsburgh, in 1995, has been managing and running the procurement activities for our BPO office as well. So I do not know how that adds up dollar for dollar, Federal employee, or contractor employee, but there are some different kinds of activities.

I think also, though, that the management at Morgantown has been focusing more on total quality management programs as well as staff reductions in the very concerted way that we need to pursue at our other centers, as we discussed earlier.

Senator BYRD. Can it be that it is because the Department is trying to expand the oil program?

Ms. GODLEY. One of the reasons why we have increased our program capabilities at Bartlesville is because we have increased our oil program, yes, in a very concerted way. It is part, in fact, of our very concerted effort to enhance our effort in the supply side technologies.

Senator BYRD. Well, then why is Bartlesville contractor-supported funding proposed to grow by 226 percent, when the program only grows by about 6 percent?

Ms. GODLEY. I cannot agree with that number, Senator. I will answer it the best I can for the record, as I said earlier. It is the same question.

Senator BYRD. The same question, the same answer.

Ms. GODLEY. Yes, sir.

Senator BYRD. It appears that you are proposing a budget for contractors that has not real linkage to the programs being conducted. Is this how DOE defines reinventing government?

Ms. GODLEY. I do not agree with your assumption, Senator.

Senator BYRD. You do not. You do not have all the answers to my questions.

Ms. GODLEY. Well I thought I did, but I—

Senator BYRD. That is fine. So you are going to provide them for the record.

BARTLESVILLE M&O CONTRACTOR

Ms. GODLEY. Right. But I have given you all the information that I have on those questions. With respect to tying the M&O contractor to the program, the M&O contractor implements our oil program. That is the purpose of that contractor.

Some of the benefits that at least were cited at the time the decision was made to go to an M&O contract were that the M&O contract itself provides more flexibility in subcontracting and doing the business at the center.

It also provided some advantages that the M&O would help us get into full compliance with ES&H requirements at that center, which, theretofore, had not been true, that the cost of subcontracted research procurement by an M&O reportedly is generally lower than the cost of DOE procurements.

So for those reasons, a decision was made by a couple of predecessors ago of mine. But we are still working to make certain that the advantages that reportedly were to come with the M&O contract are worth what we are paying for. We are still looking at that.

MORGANTOWN ENERGY TECHNOLOGY CENTER

Senator BYRD. I am very concerned about the priorities presented in the fossil and energy budget. At the very time that the program responsibilities of the Morgantown Energy Technology Center are growing, the Department appears to be doing much to stymie an energetic, creative, effective, and important organization.

I think that is an unwise approach, and I am opposed to what has been proposed in the budget.

I do not dispute, as I said earlier, that spending reductions are going to have to be necessary. If a balanced budget is ever achieved, it will not be achieved under a balance budget amendment—let me insert that little aside—which the President also opposes.

I do not believe it is prudent to achieve such reductions by what I consider to be cutting the core of the Fossil Energy Research and Development Program.

So I intend to work very closely with Chairman Gorton to ensure that the opportunities that have contributed to METC's recent successes be continued in future budgets, and that Morgantown is treated fairly in the process.

Ms. GODLEY. Senator, I have to voice disagreement with the notion that METC is being treated unfairly. I think that underestimates the quality of management, in my view.

Senator BYRD. I do not underestimate the quality of management there.

Ms. GODLEY. I am just saying that the idea that they cannot accomplish their programs with this budget, I believe is not correct. Again, the management at METC has participated fully and vocally, as you might imagine, in all of our executive meetings, and in the budget planning process.

I have heard no report from METC that they cannot carry out their programmatic objectives adequately and with quality the way

they have been doing it. If they have expressed a different opinion to somebody other than me, they need to speak to me about that.

Senator BYRD. Well, you say they have participated adequately and fully——

Ms. GODLEY. Yes, sir.

Senator BYRD [continuing]. And yet you also said that you imposed a 28-percent target.

Ms. GODLEY. No, sir; I said that the Department of Energy, in their budgeting process, gave the Office of Fossil Energy a target number.

Senator BYRD. That is what I said.

Ms. GODLEY. Then our executive board, all of us in the Office of Fossil Energy, participated in determining how we would spend that money.

Senator BYRD. So I cannot reconcile those two statements that you have made.

Ms. GODLEY. That we had a big target for the Office of Fossil Energy, and our managers determined how to spend that money.

Senator BYRD. Yes; you say that METC participated.

Ms. GODLEY. You bet.

STRATEGIC REALIGNMENT

Senator BYRD. Let us go to the DOE realignment. As part of another round of reinventing government, the Department of Energy has engaged in the realignment process, whereby it is seeking to make its organization more responsive to its mission and business lines.

What is the status of this realignment effort? What can you tell us about the proposals that are being developed?

Ms. GODLEY. The status of the alignment, as I understand it, is that the employee teams, who have been working with an outside consultant to analyze the work that is being done by the Department, to analyze how it is being done, including all headquarters activities, as well as all field activities, those teams are supposed to be finishing their proposals this week.

I understand that there have been some delays. I had not heard that that would change the scheduled finalization of their proposals. I expect those proposals will be presented to the Secretary early next week, and that she would be following on fairly quickly with some final decisions.

Senator BYRD. What are the factors or criteria that are being considered, as various alternatives are presented?

Ms. GODLEY. I have not—of course, I am not on one of the employee teams. My understanding is that in the process they are looking at customer satisfaction, at reducing costs significantly in the way we do business, and eliminating old work, or work that the Federal Government ought not to be engaged in, to eliminate duplication, to encourage integration of programs, and, thereby, earning some economies of management. So those are the sorts of things.

But the primary purpose is to make the Department as efficient as possible, to reduce the costs of operating this Department as significantly as possible, with minimal programmatic impact.

Senator BYRD. What plans does the Department have for briefing the appropriations committee prior to making its final determinations?

Ms. GODLEY. I am not involved in that process, but I would be shocked if there were not plans to do that.

Senator BYRD. Well, I understand that no final decisions have been reached by the Secretary, as you have indicated, regarding realignment.

I am told that one alternative under consideration would maintain the three existing energy technology centers, or offices, Morgantown, Pittsburgh, and Bartlesville, but establish a unified management team for all three. Is that correct? Is that one of the alternatives?

Ms. GODLEY. I have seen a draft position paper from the field management team, and I believe that that was one of the proposals considered, among others.

Senator BYRD. What would be your views on such a scenario? Do you think it would provide any cost saving, while treating all three facilities in an equitable manner?

Ms. GODLEY. I do not know, Senator. I have not seen the analysis done. It seems to me that any consolidation of activities, or overlapping or duplicative activities, should result in some savings. What the costs might be, associated with doing that, I don't know.

Senator BYRD. Are the headquarters functions also being looked at?

Ms. GODLEY. Absolutely.

Senator BYRD. To what extent is the realignment process looking at headquarters functions, as compared with field operations?

Ms. GODLEY. As strenuously. In fact, the preliminary recommendations made by the field team some weeks ago was that headquarters really should be significantly downsized to provide policy, planning, and budgeting support for field offices, and then the field offices would be responsible for implementation of programs.

I expect that to continue to be a recommendation of the field team, but I have not seen the final recommendations, nor do I know what the Secretary's positions are.

Senator BYRD. You probably would not be in the position to respond to this question. You might do so for the record. What would be the potential dollar and personnel savings of the consolidated management scenario for the energy technology centers?

Ms. GODLEY. I do not know.

Senator BYRD. Can you provide something for the record, do you think?

Ms. GODLEY. The only reason I am hesitating is because I do not have access to the numbers that are being done by the team, but to the extent they were made public by the Secretary, certainly, I can provide those. But I cannot commit to provide those without consultation with the Secretary.

[The information follows:]

CONSOLIDATION OF MANAGEMENT FUNCTIONS AT THE ENERGY TECHNOLOGY CENTERS

The projected savings for the consolidation of the centers is dependent on the scenario adopted and on the timing of the consolidation. Clearly, if the details of the merger can be implemented early in the fiscal year as opposed to later in the year,

then greater cost savings can be achieved in the first year (fiscal year 1996). In addition, the strategic alignment team looked at a number of scenarios including one which consolidates only METC and PETC and one which consolidates METC, PETC and the Bartlesville Operations Office. The second scenario achieves larger savings than the first, but may be more difficult to implement because of the geographic and programmatic separation between METC and PETC on the one hand and Bartlesville on the other.

The following table gives the estimated savings for the METC/PETC consolidation under a timing scenario that would have planning for the consolidation completed by October 1995 and the implementation completed by October 1996. As Secretary O'Leary has stated in her news conference regarding the realignment, we hope to accomplish this consolidation without a reduction in force, relying instead on the buy-out program and on normal attrition. However, since many of the projected buy-outs will occur in fiscal year 1997, it may be desirable to delay a portion of the consolidation until fiscal year 1997. The comparable numbers for the consolidation of all three centers are not yet available, but could be provided to you at a later time when this scenario is more fully worked out.

Fiscal year 1996 scenario

Targeted federal headcount savings	90
Fiscal year 1996 net savings:	
Personnel costs	(\$495,000)
Contractor costs	\$2,850,000
Total fiscal year 1996 savings	\$2,355,000
Annual savings post fiscal year 1996:	
Personnel	\$6,210,000
Contractors	\$5,695,000
Total annual savings post fiscal year 1996	\$11,905,000

Please note that the savings calculations shown above are for personnel costs which include salaries and benefits plus travel and training, which are those items that normally are directly proportional to headcount. The first year cost savings are less than in subsequent years because of one-time termination expenses of \$40,000 per employee. Also, please be aware that the estimates given must be further refined by the implementation team which has been tasked to implement all of the Department's strategic alignment initiatives.

MORGANTOWN ENERGY TECHNOLOGY CENTER

Senator BYRD. Another scenario, as I understand it, would be to close the Morgantown Energy Technology Center and transfer its in-house research capabilities to Pittsburgh, and transfer the Morgantown facilities to West Virginia University.

I do not know that the university endorsed that, or had been consulted as to the financial feasibility of such an undertaking. Do you know anything about such a scenario?

Ms. GODLEY. Yes; I think that what I know is every single field site in the Department of Energy has been considered for closure, every single one. METC has not been singled out in that respect.

Senator BYRD. If the facilities were transferred to West Virginia University, what plans would DOE have to continue financial support for the physical plant and the program operations conducted at METC?

Ms. GODLEY. I do not know of any such plans.

Senator BYRD. If METC has the largest research budget in fossil energy, larger than that of Pittsburgh and Bartlesville, combined, and that was the case in 1995, and is the most forward thinking facility, as evidenced by how much of their program is supported in your budget, why would DOE propose to liquidate itself of this asset?

I am not saying it has proposed it, but as you have indicated, there is a scenario that you have heard about.

Ms. GODLEY. I think the same question might be asked about many of our field sites across the Department of Energy, both our operations offices and the other program implementation offices.

I think that those are exactly the questions that the field teams and that the Secretary will be doing, is to ask the questions, did the costs, both economic and programmatic costs, justify any cost savings or benefits resulting from the closing of any site. That same analysis would be applied to METC as it would to any other site in the Department of Energy.

Senator BYRD. What is the likelihood, in your judgment, of that scenario being played out?

Ms. GODLEY. I have no judgment of that, Senator.

Senator BYRD. You have what?

Ms. GODLEY. I have no judgment. I have no way of judging it.

Senator BYRD. I must reiterate that I am opposed to any efforts by the Department of Energy to close or dismantle the Morgantown Energy Technology Center. The work being done at Morgantown is world class, is it not?

Ms. GODLEY. Yes; we have a lot of world class work going on in the Department of Energy.

Senator BYRD. I am talking about Morgantown.

Ms. GODLEY. There, too.

Senator BYRD. The work being done at Morgantown is world class, and should not be terminated in the name of short-term budget savings. I will do whatever I can to continue to see that the work and the efficiencies at METC continue to be held up as a showcase.

I am not attempting to exempt METC from any efforts or design to attain greater efficiency, or savings, where they can be justified, but I do expect the Department to treat METC equitably and fairly, and not to diminish the program at Morgantown in order to enhance operations elsewhere.

I thank you for your answers, your testimony. I will be looking forward to working further with you.

Ms. GODLEY. Thank you, Senator.

Senator BYRD. Thank you.

Thank you, Mr. Chairman.

Senator BENNETT. Thank you for your testimony and for your thoughtful responses, and your good humor under some pressure. We look forward to working with you and your colleagues during the next several months.

ADDITIONAL COMMITTEE QUESTIONS

We do have some additional questions that are probably more appropriately submitted in writing, which we would ask that you would respond to as promptly as you could. We would get those to you from the staff as quickly as we can.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

FOSSIL ENERGY RESEARCH AND DEVELOPMENT GENERAL

Question. In examining the budget justification for Fossil R&D, it is apparent the Department has historically carried over large unobligated balances into the following fiscal year. I believe the amount was \$69 million in FY 95. I understand there are reasons why funds cannot be obligated in the fiscal year for which they are appropriated, but limitations on new budget authority make it unlikely that the Department will be appropriated funds that cannot be obligated efficiently.

Will you provide for me a breakdown by major activity of unobligated, uncommitted, and unencumbered balances that Fossil R&D carried over into FY 95 and expects to carry into FY 96?

Answer. Listed below is a summary of the unobligated, uncommitted, and unencumbered balances carried over into FY 1995 and the projected carryover into FY 1996.

	Carryover to FY 1995		Carryover to FY 1996	
	FY 1994		FY 1995	
	Unoblig.	Uncommit/ Unencumb.	Unoblig.	Uncommit/ Unencumb.
Advanced Clean Fuels Research	\$2,595,427	\$0	\$0	\$0
Adv. Clean/Efficient Power Systems	6,171,379	0	0	0
Underground Coal Gasification	7,000	0	0	0
Adv. Research & Tech. Development	1,170,338	0	0	0
Natural Gas Research	4,995,482	0	0	0
Fuel Cells	3,848,843	0	0	0
Oil Technology	46,300,885	0	0	0
Oil Shale	75,421	0	0	0
Program Direction	1,547,811	0	0	0
Plant and Capital Equipment	1,346,290	0	0	0
Environmental Restoration	574,712	0	0	0
Cooperative Research & Development	100,374	0	0	0
Fuels Program	<u>55,160</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	\$68,789,122	\$0	\$0	\$0
Offset for FY 1996	\$0	\$0	\$6,499,000	\$ 0
Total Unobligated	\$68,789,122	\$0	\$6,499,000	\$ 0

Question. Has the Fossil R&D program made progress in reducing prior year carryovers in recent years?

Answer. Fossil Energy has made an aggressive attempt to reduce unobligated balances. We have successfully reduced these balances in each of the past five years (FY 1990-FY 1995). We remain committed to this objective and are extremely hopeful that we can continue to make progress toward eliminating virtually all of these balances.

Question. Protecting the competitiveness of U.S. firms is one of the reasons frequently used for to justify Federal energy research programs. However, several people have expressed to me their concern about foreign-owned firms benefitting from programs such as Fossil R&D and Clean Coal.

For technologies developed with DOE support, what safeguards exist to see that those technologies will not be appropriated by foreign-owned firms and used to manufacture goods offshore?

Answer. The concern underlying this question has been addressed recently in the Energy Policy Act (EPACT) of 1992. Section 2306 authorizes the Secretary of Energy to limit recipients of financial assistance to companies for which the economic interests of the United States would be advanced. This includes United States-owned companies and companies incorporated in the United States, that are owned by a parent that is incorporated in a country that affords United States companies comparable opportunities.

Section 2306 is adequate protection, where it is applicable. However, Section 2306 is only applicable to titles XX through XXIII of EPACT. The practical effect is that Section 2306 is applicable to fossil energy R&D, except for coal R&D. This limitation could be addressed by making the language of Section 2306 applicable to title XIII.

Question. Some cost shared Department of Energy programs include recoupment provisions whereby the Federal government can recover some of its investment in a technology once it is commercialized. Are such provisions used in the Fossil R&D program?

Answer. Recoupment is required in the Clean Coal Technology (CCT) Program, where the DOE shares the financial risk of demonstrating advanced clean coal technologies, that are being demonstrated at commercial scale. In the Fossil Energy policy R&D program, cost sharing is required but DOE policy has not been to impose a recoupment requirement.

Question. If so, are they standard practice? Have payments been received by the Department? How much?

Answer. Since there is no recoupment provision for Fossil Energy R&D programs, no payments have been received.

In the Clean Coal Program, the technologies being demonstrated are required to be made available on a nondiscriminatory basis to U.S. companies under reasonable terms and conditions. Further the technology owner is required to make the technology available and not, in the case of a foreign owner, to keep it for itself. If the owner does not meet its commitments, the Government has the right to "march in" and give the technology to a competitor. These requirements are intended to insure that U.S. taxpayers receive the benefits from their investment.

Question. If not, why not? Is explicit Congressional authorization required?

Answer. The DOE has not imposed a recoupment requirement, as a matter of policy, except in the case of commercial demonstration programs, such as

the Clean Coal Technology Program that is authorized separately from the R&D Program.

The reason for the DOE policy is that a policy of recoupment for Fossil Energy R&D could inhibit participation in the Fossil Energy program by many U.S. firms. Recoupment would add to the cost of administering the R&D program, since for many R&D activities the commercial rewards may not be realized for a decade or two after the project is completed. Further, there are clear benefits to the U.S. economy, that can be documented, of the Fossil Energy R&D program as it is presently administered.

Question. Total FTEs for Fossil R&D remain flat at 726 in FY 1996. Are reductions contemplated as part of the Department's Strategic Realignment?

Answer. Yes, the Department's federal employment will be reduced by 3,788 (27%) over five years, from our 1995 target of 13,907 full time equivalents (FTEs). In addition, we estimate a cut of 27% in DOE contractor employees between 1992 and 1996.

Question. When will these reductions occur?

Answer. These reductions will occur over the next five years.

Question. How many contract employees are funded from the Fossil R&D account?

Answer. The exact number of contract employees is not known due to the use of temporary employees and the interchanges that occur as employees move from task to task under different contracts. It is possible to estimate that the FY 1996 budget request will result in approximately 7900 jobs in the private sector.

Question. Will this number be reduced as part of Strategic Realignment?

Answer. This number will be reduced as a result of a reduction of the FY 1996 budget request. In addition, the Secretary has committed to reducing support service contracts, information management, travel, and M&O contractor employees. All of which will have an impact on the number of contractors that are reduced in the FE R&D appropriation.

COAL RESEARCH ADVANCED CLEAN FUELS - COAL PREPARATION

Question. The justification for Coal Preparation indicates that testing of the "advanced froth flotation process demonstration unit" will be completed in FY 96. The justification also seems to indicate this testing was to have been completed in FY 94.

What is the nature of the testing to be completed? Will there likely be further reductions in the FY 97 request for Premium Fuels/Air Toxics based upon completion of this testing?

Answer. Under the Premium Fuels initiative, bench scale testing followed by process demonstration unit testing will be completed for two advanced coal

cleaning technologies--advanced froth flotation and selective agglomeration. The bench scale testing for advanced froth flotation was completed in October 1994. For selective agglomeration, the bench scale testing was completed in December 1994. The process demonstration unit testing for advanced froth flotation and selective agglomeration will be completed in February 1996 and September 1996, respectively. In addition, near-term testing of the advanced froth flotation technology at an operating industrial coal preparation plant is projected to be completed in May 1996. Data analysis, final report preparation, and decommissioning activities will continue until November 1996.

Under the hazardous air pollution initiative aimed at reducing air toxics precursor trace elements in coal, three projects have been selected for negotiations. Phase I of these projects will continue through FY 1997.

Since most of the testing under the Premium Fuels initiative will be completed prior to FY 1997, funds will not be needed for this purpose.

Question. For the past two years, the University Consortia for the Appalachian Region has received funding for coal cleaning research.

What work has been done by the consortia?

Answer. The consortium was formed in 1993 with three university members - Virginia Polytechnic Institute, West Virginia University and the University of Kentucky. The aim of the consortium is development of coal beneficiation technologies appropriate for Appalachian coals. Funding for the consortia was appropriated in only one year--\$250,000 in FY 1994. With this funding an internal solicitation was conducted and the three universities (Virginia Polytechnic Institute, West Virginia University and the University of Kentucky) submitted a total of four proposals. These proposals are now under review by the affiliated industrial advisory board which is composed of coal companies active in Appalachia. The proposals address the near-term needs of the Appalachian coal industry with emphasis on fine coal dewatering and improving coal cleaning spirals. There is a requirement for the proposing universities to provide at least 20% cost sharing.

No further funding for high efficiency coal cleaning research was requested for FY 1996. It is more appropriate for the coal industry to fund this research since the technology is designed for upgrading existing facilities which should be an incentive for industry's continuation of this activity.

ADVANCED CLEAN FUELS - DIRECT LIQUEFACTION

Question. In Direct Liquefaction, the Department is continuing an end use and emissions study for coal derived transportation fuels. What is the purpose of this study?

Answer. The purpose of the coal liquids end use and emission study is to provide a database to co-refine coal liquids and petroleum crude in a conventional refinery, which is a scenario anticipated for the introduction of the first coal liquids into the market. The database will also provide a tool to help establish a fair price for the coal liquids as a refinery feed material. Finally, the database will ensure that co-refined products will meet the engine emission specifications required by the Clean Air Act.

Question. Why is it being continued given the low priority being assigned to liquefaction for transportation fuels?

Answer. Coal liquefaction is an important long-term market option for producing environmentally superior liquid transportation fuels from coal. Continuance of the coal liquids end use and emission study in FY 96 will provide important new information for refining coal liquids. The coal liquids to be used in this study were produced in the HRI proof-of-concept (POC) unit using advanced two-stage liquefaction technology. The quality of these coal liquids is much superior to that previously produced by first generation coal liquids, and no refining data is available for these liquids. Since sufficient coal liquids were produced at considerable cost and are available for testing at this time, it is considered appropriate to expend the requested funds to accomplish their refining. With the proposed termination of the HRI POC activity, no additional POC coal liquids will be available for end use testing for at least the next few years.

Question. What is the Waste/Coal Coprocessing study that is to be initiated in FY 96?

Answer. The purpose of this study is to conduct supporting research on co-liquefaction of coal and wastes such as plastics, tires, and waste oil. This technology may offer a route to lower cost, environmentally superior coal-derived transportation fuels, while simultaneously reducing the ever-increasing landfill requirements for waste disposal. This effort will augment the batch small-scale laboratory research activity being conducted within the Advanced Research Coal Liquefaction budget. The specific research will provide information on waste mixing properties, catalysts, and other research issues which will require addressing for continuous bench scale co-liquefaction studies to be conducted.

Question. What is the total cost of the study and when will it be completed?

Answer. It is expected that supporting activity for bench scale co-liquefaction activity would require about \$800K in total funding over a 3-year period.

Question. Are there decommissioning costs associated with closure of the HRI facility?

Answer. No DOE costs will be associated with the decommissioning of the HRI proof-of-concept facility since the contract provides that the contractor is responsible for decommission.

Question. If so, how much and from what account will this activity be funded?

Answer. No DOE funds will be required for decommission of the HRI proof-of-concept facility.

ADVANCED CLEAN FUELS - INDIRECT LIQUEFACTION

Question. Are there decommissioning costs associated with closure of the LaPorte facility?

Answer. Yes. The LaPorte Alternate Fuels Development Facility (ADFU) is owned by the U.S. Department of Energy and is located in an Air Products' site in LaPorte, Texas, adjacent to a synthesis gas production facility.

Question. If so, how much and from what account will this be funded?

Answer. Preliminary estimate indicates that a decommissioning cost of \$1.5 million is needed to dismantle the equipment and to ship them to a DOE-designated site. This cost does not include any environmental restoration costs, if needed, for the site. At present, there is no funding allocated in the DOE budget for this decommissioning activity.

Question. What is the Syngas Production Integration Study that is to be initiated in FY 96?

Answer. The proposed study on Syngas Production Integration focuses on reducing the system cost for coal liquids produced by gasification of coal for the production of environmentally superior liquid transportation fuels. This study would quantify the cost reductions that could be realized through integration of the potential technological advances in coal gasification, synthesis gas clean-up, and synthesis gas conversion. The proposed technological advances include the use of membranes for air separation in the gasification system, high temperature synthesis gas clean-up, and the liquid-phase synthesis gas conversion reactor. The results from the proposed study will provide direction for identifying and prioritization of future research programs for the conversion of coal to liquid transportation fuels.

Question. What is the study's total cost? When will it be completed?

Answer. The proposed scoping study on Syngas Production Integration is estimated to cost \$800,000, and will take 18 months to complete. As a result of this study, experimental efforts at the laboratory/bench scale could be conducted in out-years.

ADVANCED RESEARCH AND ENVIRONMENTAL TECHNOLOGY

Question. In Advanced Research and Environmental Technology, the Department proposes to eliminate funding for the Consortium for Fossil Fuel Liquefaction Science for the coprocessing of coal with waste materials.

What is the rationale for this reduction? Will research on this technology continue to be conducted in-house?

Answer. The Department of Energy believes that the FY 1996 request is proper and balanced in light of fiscal budget constraints. In 1996 the Advanced Research and Energy Technology Fuels program is budgeted at \$746,000 of which no funds are requested for the Consortium for Fossil Fuel Liquefaction Science. Very limited research will be performed at the Pittsburgh Energy Technology Center to address critical questions in

coprocessing coal with waste materials. The scope of the research will not be sufficient to carry the technology to demonstration stage by 1999, which was the originally planned program.

Question. What is the nature of the five year agreement between the Department and the Consortium?

Answer. A five year cooperative agreement from May 1, 1993, to April 30, 1998, is in place between the Consortium and the Department of Energy. The cooperative agreement has been funded for the first three years, namely up to April 30, 1996. The continuation of the activity of the Consortium after April 30, 1996, is subject to availability of funds.

Question. What is the funding profile for the program?

Answer. Funding Profile (\$ in thousands)

	DOE	Cost Share	% Cost Share	Total	Remarks
FY 1993	\$1,800	\$1,590	47	\$3,390	Actual
FY 1994	1,800	1,567	47	3,367	Actual
FY 1995	1,700	1,458	46	3,158	Actual
FY 1996	1,700	1,500	47	3,200	Requested
FY 1997	1,700	1,500	47	3,200	Planned Per
TOTAL	\$8,700	\$7,615	47	\$16,315	Coop. Agreement

Question. Are current technologies of this type close to being cost-competitive? **Answer.** If the environmental cost benefits of recycling are included, this technology would be economically competitive today. Environmental considerations aside, recent studies indicate that waste-coal coprocessing could produce gasoline and diesel fuels for about \$33 per barrel.

Question. Is there a logical "milestone" or stopping point that the program has reached or will reach in coming years if additional funding is provided?

Answer. If funds were appropriated for each year in FY 1996 and FY 1997 to continue the Consortium's activities, research on coal-waste coprocessing would reach a stage that would permit the design of a demonstration plant by 1999. The project could then move to a cost-shared, cooperative effort with the private sector for the design, construction and initial operation of a demonstration plant, which would cost tens of millions of dollars.

ADVANCED CLEAN/EFFICIENT POWER SYSTEMS ADVANCED PULVERIZED COAL-FIRED POWERPLANT

Question. The justification states that cost sharing goals for the Low Emissions Boiler System (LEBS) Phase II design range from 15-25%. The FY 95 request states that cost sharing of 25% is required. Has project cost sharing not met expectations or requirements? If not, why not?

Answer. Phase II, which began early in FY 95, includes the development of components and construction and testing of plant subsystems on about the 3-10 Mwe scale. Cost sharing requirement for Phase II was increased from a

minimum of 15% to a minimum of 25%. Based on the negotiated costs for Phase II, cost sharing is 26.2%, slightly exceeding our expectation.

Question. What is the total estimated cost and time of completion for Phase II?

Answer. The total estimated cost for Phase II, based on three contractors, is \$29.4 million, with \$21.7 million DOE funds and \$7.7 million cost sharing by the contractors. Phase II completion is expected by the end of FY 96.

Question. Is a Phase III envisioned for the LEBS project?

Answer. Phase III, preliminary proof-of-concept design, is envisioned only after successful completion of Phase II.

Question. If so, what does it entail, what is the total estimated cost, and what is time of completion?

Answer. If Phase III is executed, results of Phase II will be used to update the commercial plant design and economics and to develop a test plan and preliminary design for the proof-of-concept facility. The total estimated cost for three contractors is \$5.5 million, but if we down-select to one contractor, the cost will be about \$1.8 million. Phase III should be completed by mid-FY 97.

Question. Your written testimony states that the Department plans to reduce the number of industry teams in this program from three to two or one. When is this down-select scheduled to occur?

Answer. The Congressional language that accompanied the FY 95 appropriation instructed DOE to continue with three contractors in FY 95. Based on the FY 96 budget request, DOE will have to down-select early in FY 96.

Question. What cost savings would be achieved if the Department chose only one contractor but also demanded a higher level of cost sharing? How would this affect the Department's ability to reach program goals?

Answer. Carrying three contractors through Phase III (as earlier planned) would cost DOE a total of \$35.9 million. If it is assumed that funds allocated through FY 95 will have been spent on Phase II activities and that down-selection will incur close-out costs of \$1 million per contract, down-selecting from three to one early in FY 96 would reduce DOE cost through Phase III to \$29.6 million, a reduction of \$6.3 million. Although this assumes that 60% of Phase II costs will be incurred in FY 95, the assumption is reasonable because the three contractors will have spent this larger portion for sub-system construction and testing. If we required 50% cost sharing for one contractor to complete Phases II and III, DOE cost through Phase III would be about \$28.1 million, for an additional reduction of \$1.5.

Down-selecting from three to one will greatly reduce the chance for program success. Asking for a second increase in cost sharing would create uncertainty by the contractor(s) about the government's commitment to LEBS beyond FY 96.

Question. The Senate report accompanying the FY 1995 appropriations bill directs the Department to prepare a report by April 1st, 1995 reviewing the role of the LEBS program in the context of the Department's technology development objectives. When will this report be submitted?

Answer. The report is scheduled for delivery to Congressional Committee members by July 7, 1995.

INDIRECT FIRED CYCLE

Question. The Department requests funding to continue Phase II of the High Performance Power System (HIPPS) project. What is the total estimated cost and time of completion for Phase II?

Answer. Total estimated cost for Phase II is \$70 million. Completion is scheduled for the 3rd quarter of FY 99.

Question. What cost sharing minimum has been established for Phase II of the HIPPS project?

Answer. Minimum cost sharing is 25%.

Question. Is a Phase III involving technology demonstration envisioned for the HIPPS project?

Answer. Proceeding with Phase III of the HIPPS program is currently being evaluated.

Question. If so, what does it entail, what is the total estimated cost, and what is estimated time of completion?

Answer. Phase III is the construction, operation and evaluation of a commercial prototype plant, probably about 40-48 MWe in size. Total estimated cost for Phase III is \$100 million, with DOE contributing a maximum of \$60 million. Completion is expected by the end of FY 2004.

HIGH EFFICIENCY - IGCC

Question. The Department is requesting \$12 million to continue operation of the Power Systems Development Facility at Wilsonville. What is the funding profile for this project?

Answer. The Wilsonville project will require \$12 million from PFBC and \$12 million from hot gas cleanup (IGCC) in FY 1996 to complete construction and shakedown and begin operations. In FY 1997 and following years, operations are estimated at \$20 million per year, though this will depend on actual progress made and value of the activity to the Fossil Energy R&D program.

Question. How does this project relate to IGCC projects participating in the Clean Coal program?

Answer. The Wilsonville project will be conducting developmental testing of several advanced hot gas cleanup components being developed for commercial applications. These components could be used in existing Clean

Coal Projects such as (1) the Four Rivers Energy Modernization Project, a second-generation circulating-bed PFBC project; (2) the Mountaineer Project, a first-generation bubbling-bed PFBC project; (3) the DMEC-1 Project; (4) the Combustion Engineering IGCC Project; (5) the Tampa Electric IGCC Project; and (6) the Pinon Pine IGCC Project. The Administration's policy on the Clean Coal Technology program is to not start on any more projects. Thus, this developmental hot gas cleanup technology will not be demonstrated in any new Clean Coal projects.

Question \$3.9 million is requested to continue construction of the gasification facility at the Ft. Martin Power Plant site. What is the expected funding profile for this project?

Answer. The FY 1996 budget request of \$3.9 million includes \$1.558 million for the design and construction of the gasification facility with the remaining funds being used for DUE in-house R&D in support of the gasifier concept. The FY 1997 project construction need is \$2.67 million plus \$3.73 million in startup and commissioning costs. FY 1988 operating costs are estimated at \$3.5 million. FY 1999 and FY 2000 operating costs are estimated at \$4.0 million per year.

Question. How does this project relate to other gasification work being funded by the Department?

Answer. Two competing technologies are being funded in the Fossil Energy R&D program. They are described below.

The U.S. Department of Energy is funding gasification work at Wilsonville, Alabama, related to the Power Systems Development Facility (PSDF) and at the Ft. Martin Power Plant site related to the Gasification Product Improvement Facility (GPIF). The advanced gasifier module at Wilsonville will use M.W. Kellogg's transport technology for pressurized combustion and gasification to provide either combustion flue gas or a gasification low-to-medium Btu fuel gas for evaluation of hot particulate control device performance and system integration issues. The transport reactor has been selected as the gas generator due to its flexibility.

GPIF's PyGas air-blown concept combines the best features of other gasifiers in a composite configuration, operates at moderate temperature, and is tailored to a power generation application. High-cost equipment for cooling and air separation is not required.

Question Is the Department confident that its work in gasification is sufficiently integrated to achieve the maximum possible level of efficiency?

Answer Yes. Through the use of an integrated development strategy, highly cost-shared agreements and the development of existing facilities as technology integration sites, DOE has focused on maximizing the benefit from the Government's investment in gasification and gasification-related R&D to achieve commercialization goals of 52% efficiency by FY 2010.

Question Why has the Department proposed to "accelerate" fixed-bed gasifier/hot gas cleanup integrated IGCC PDU tests?

Answer. These tests at the GE moving-bed desulfurization pilot plant at Schenectady, New York, provide support to the hot gas desulfurization process being applied at Tampa Electric IGCC Demonstration project. This Clean Coal project has a startup date of June 1996. Past PDU tests have uncovered sorbent issues crucial to the design of a commercial hot gas cleanup desulfurization process that requires resolution to ensure a successful CCT project. Thus, the number of planned tests (testing frequency) has increased to address sorbent durability (attrition resistance), sorption capacity, chloride control, and process design and operational issues.

Question. What would be the impact of maintaining funding for this work at FY 1995 levels?

Answer. Maintaining the funding for General Electric PDU tests at the FY 1995 level will not provide sufficient resources to complete the testing of hot gas desulfurization sorbent necessary to address Tampa Electric's concern regarding the sorbent durability and reactivity.

HIGH EFFICIENCY - PRESSURIZED FLUIDIZED BED (PFB)

Question. The Department is requesting an increase in funding for design of a second generation hot gas particulate filtration system "capable of meeting basic performance requirements for CCT demonstrations." Why is this technology not funded from the Clean Coal program?

Answer. The "second-generation hot gas particulate filtration system" to be tested at the Power Systems Development Facility (PSDF) in Wilsonville, Alabama, will address and resolve technical barriers in high-temperature, high-pressure particulate control concepts that will be applicable to both clean coal systems and advanced power systems. These particulate control concepts are an enabling technology essential to future high efficiency Advanced Power Systems such as Integrated Gasification Combined Cycle and Advanced Pressurized Fluid Bed Combustion (including second-generation PFBC). CCT funds are required to be used to support commercial demonstration of power technologies, and cannot be used to address technology barrier issues. Information from the PSDF is directly applicable to the CCT projects.

Question. To which Clean Coal projects is this technology critical?

Answer. There are several Clean Coal Projects to which this system is applicable: (1) the Four Rivers Energy Modernization Project, a second-generation circulating-bed PFBC Project; (2) the DMEC-1 Project; (3) the Combustion Engineering IGCC Project; and (4) the Piñon Pine IGCC Project. Technical barriers in high temperature, high pressure particulate control concepts still require resolution for purposes of long term reliability, maintainability and availability both at the system and component level.

Question. Generally speaking, how does the Department determine whether projects are to be funded from the Clean Coal program or Fossil Energy R&D?

Answer. Funding for the Clean Coal Program for Rounds I through IV did not provide for the spending of DOE cost-share monies for Fossil Energy R&D. In Clean Coal Round V, DOE cost share was allowed for Project Specific Development Activities (PSDA--essentially Fossil Energy R&D-type activities) up to 10 percent of the total DOE cost share for the project. The request for DOE cost share for PSDAs was to be proposed by the participant, not DOE. That is, except for any PSDAs proposed in Clean Coal V, the Clean Coal Program funds are to be used directly for the design, construction, and operation of the demonstration projects.

Question. The Department is requesting \$12 million to complete construction of the Advanced PFB pilot scale project at Wilsonville. Why is this pilot scale project being funded in Fossil R&D with 20% industry cost share rather than in Clean Coal with a higher cost share?

Answer. The "label" describing the project is misleading. The Advanced PFB pilot plant-scale project at Wilsonville is a technology R&D site incorporating several advanced power system technologies. It is a test facility designed to test components and advanced systems at a scale sufficient to provide data for further scale-up of these technologies to larger, commercially-sized, demonstration facilities, such as those being demonstrated in DOE's Clean Coal Technology program. As such, it is appropriate for the private sector developers to cost share at the 20% level rather than the higher 50% level required in the Clean Coal projects. No commercial power will be produced at this (smaller) scale.

Question. What is the funding profile for the remainder of this project?

Answer. The Wilsonville project will require \$12 million from PFBC and \$12 million from hot gas cleanup (IGCC) in FY 96 to complete construction and shakedown and begin operations. In FY 97 and thereafter, operations will require a total of \$20 million a year from the PFBC and IGCC programs to operate the facility.

Question. What is the scope and purpose of the Wilsonville facility as a whole?

Answer. The Wilsonville facility is an R&D site which incorporates five advanced power system technologies: a transport reactor, an advanced PFBC, four particulate control devices, a low NO_x combustor/gas turbine, and a fuel cell. The purpose of the facility is to test components and advanced systems at a scale large enough to provide data for scale-up to commercial demonstration facilities. It will essentially be a user-oriented site for the development of enabling technologies critical to commercialization of PFBC and IGCC power generation technologies. Over a period of years these studies should lead to cleaner, more efficient, and less expensive advanced coal-based power systems with a better chance for introduction and use by electricity generators in the U.S.

Question. What is the Federal investment in the facility to date?

Answer. Through FY 95, a total of \$93.1 million has been spent on the project.

Question. What is the expected life of the facility?

Answer. Ten years of operational life is anticipated based on the current state of development of the respective technologies.

ADVANCED RESEARCH AND ENVIRONMENTAL TECHNOLOGY

Question. The Department's justification indicates work on coke oven emissions control will continue for the third year using prior year funds. How much will be spent in FY 96?

Answer. Approximately \$2.2 million will be spent in FY 96.

Question. How long is this work scheduled to continue?

Answer. The project should be completed in October 1996.

Question. Is the Department using a specific source of funding, or simply tapping into general carryover for Fossil R&D?

Answer. Funds were appropriated for this project in FY 1992 and FY 1993. These funds were used to off-set other obligations in FY 1995. In order to fund the Calderon project an equal amount of funds were obtained from unobligated balances.

Question. At a reduced funding level, the Department proposes to continue monitoring Clean Coal disposal sites, surface mine sites and in deep mines. The justification indicates that 50% cost sharing has been the goal for the past three years. What level of industry cost sharing has actually been achieved over the last three years?

Answer. The actual level of cost sharing achieved over the past three years has been 49.5%.

Question. To what extent can or should this activity be coordinated with the Office of Surface Mining?

Answer. Initial contact has been made with the Office of Surface Mining regarding the use of alkaline coal combustion waste to neutralize the acidic mine drainage. It is anticipated that a memorandum of understanding and possibly an interagency agreement may be executed to address the acidic mine drainage problems.

ADVANCED RESEARCH AND TECHNOLOGY DEVELOPMENT

Question. The Department has requested a \$1 million increase for Historically Black Colleges and Universities. What will this increase fund?

Answer. The increase in funding for Historically Black Colleges and Universities will fund an additional four to six awards for research grants in an open competition to 117 Historically Black Universities and other minority institutions.

GAS RESEARCH GENERAL

Question. Your testimony asserts that one of the three main obstacles to realizing the full potential of natural gas in the United States is that: "Much of the gas is beneath offshore waters that are currently off-limits to producers because of Congressionally-imposed moratoria." I'm guessing the quantity of gas in areas currently subject to moratoria is much greater than the additional amount of gas that might be produced due to Federal exploration and production research.

Is it contradictory to submit a budget that requests a 25% increase in Gas Research, but at the same time proposes to extend drilling moratoria?

Answer. No. The exploration & production technology development that is proposed in the budget will address technological and geological barriers to natural gas recovery, all of which exist both onshore and offshore in non-moratoria areas.

Question. Ready availability and low price have made natural gas the fuel of choice for many utilities and independent power producers attempting to satisfy the growing demand for electricity. Residential use is also increasing rapidly.

With gas supply seemingly adequate for the foreseeable future, why is the Department requesting such a large increase in Resource and Extraction as opposed to Utilization and other demand-side activities?

Answer. Resource estimates for natural gas indicate a supply of about 60 years. However, at current production rates, the U.S. has proven reserves of about seven to eight years. Current and foreseeable wellhead prices are low, and could prevent the resource estimate from becoming proven reserves unless advanced technology to reduce the costs of recovery are developed. Therefore, a strong, aggressive research program is needed to offset low natural gas prices.

Question. Won't production research be conducted by industry when justified by anticipated scarcity of gas resources?

Answer: Yes. When firms believe that new methods and technologies can payoff by improving productivity, lowering the cost of gaining access to and producing from new resources, and decreasing expenses, R&D spending is justified. Businesses can perform R&D cooperatively with other firms (as well as individually), through industry entities like the Gas Research Institute, with foreign firms, or through partnerships with DOE. However, erratic market conditions can make R&D investment spending decisions for individual firms very difficult, and aggregate industry R&D activity may be lower than otherwise expected. Insufficient industry R&D activity, not spending, is a public concern addressed by the Department's R&D program whose goal is to assure a stable, long-term supply of natural gas needed to meet environmental and energy security goals.

Question. To what extent is the problem of well abandonment an oil problem as opposed to a gas problem?

Answer. Premature abandonment is just as much a gas problem as an oil problem. Low prices, increased regulation, and mature fields are having the same impact on domestic natural gas production as on domestic oil production.

NEW GAS PROGRAM RESOURCE AND EXTRACTION

Question. The Department is requesting an increase for continued research in reservoir field demonstrations in the Greater Green River Basin. How does this work relate to the Recovery Field Demonstrations in the Oil Research program?

Answer. The two programs are distinct and separate, but have some similarities. The oil program groups reservoirs by similar depositional environment which may result in a grouping of many geologic basins. The gas program also groups reservoirs, but on a much smaller scale, grouping similar reservoirs within a single basin. In this case, the basin of interest is the Greater Green River Basin. The two programs have common objectives of proving technologies that will enhance both gas and oil production.

Question. Are demonstration projects chosen in a similar manner?

Answer. Yes. In both cases a solicitation is conducted, proposals are received and evaluated against evaluation criteria developed specifically for each solicitation. Each proposal receives a score, and the proposals are ranked. The highest ranking proposals are selected. After project costs are negotiated, a contract is awarded.

Question. What have been the results of this program over the past several years?

Answer. The program in the Greater Green River Basin began with an industry meeting at which the barriers to production in the Greater Green River Basin were discussed. A report documenting these barriers was published. In 1994, a solicitation was held during which proposals addressing these problems were evaluated. In 1995, a project with Union Pacific Resources was selected. Funds requested in FY 1996 will be used to fund this contract.

However, the program in the Greater Green River Basin is larger than this single project. This project focuses an intense effort in a single area of the Greater Green River Basin, but it is being closely coordinated with wells of opportunity in a highly complimentary effort by the Gas Research Institute across a much larger area of the Basin.

This effort in the Greater Green Basin is a follow on activity to previous, successful efforts in the Piceance Basin resulting in highly productive and cost-effective horizontal wells. This work was also coordinated with the Gas Research Institute and resulted in increased industry horizontal drilling activity in the Piceance Basin.

Question. What work will be performed with the additional funding?

Answer. Work to be performed will be a demonstration project in the Greater Green River Basin with multiple phases. The first is to drill and

characterize a vertical well, to be followed by drilling and characterization of a horizontal leg. The project will ultimately terminate (in future years) with the drilling and characterization of a high angle leg.

Question. The Department proposes a substantial increase in effort for gas reservoir data collection and mapping. Why is the Department engaged in this activity at all?

Answer. The Department is engaged in this activity to gain the high quality data needed for use in modeling the effects of various tax and policy scenarios, as well as for use in assessing the impact of changes in the research program. Further, this information is used by industry in assessing the risk associated with new projects.

Question. Isn't this a function that could logically performed by a private entity?

Answer. This function is currently being performed by the private sector in a mutually beneficial partnership with the Department. The Department gains access to the highest quality data possible for use in policy, tax and technical analysis, and the private contractor gains access to the highest quality data possible for use in risk assessment.

Question. A very large increase has been requested for the portion of the Advanced Computational Initiative (ACTI) funded by the Gas Research program. As you know, the rescission bill that is now in conference proposes to rescind much of the FY 95 money for this program. Are there no other sources from which industry could procure the type of computational technology that will be made available under this program?

Answer. Technology that is being collaboratively developed by the National Laboratories, Universities and Industry is not available from other sources. Much of the work is made possible and economically feasible because it is built on existing computer codes and technology developed in the weapons and other energy programs. The computational capability developed in the ACTI program will greatly advance the state of the technology that now exists in a number of petroleum technology areas necessary to efficiently produce domestic natural gas and oil.

Question. What will industry contribute to this program?

Answer. Industry will provide the necessary funding for their participation. On average this amounts to 50 percent of project costs, though most project contributions will be non-financial.

Question. What exactly would the requested \$14 million purchase (computer time, salaries of programmers, etc.)?

Answer. ACTI funds pay for both the National Laboratory and University participation in the selected collaborative projects. The actual cost of these projects cover computer time, research equipment, researchers salaries, travel, and other costs associated with each project.

Question. What does the Department expect to achieve in terms of additional energy resources recovered?

Answer. The ACTI projects cover a broad range of petroleum technology, both natural gas and oil, that address the needs of the industry. The additional energy resources expected to be recovered include the increment that the specific technology being developed will allow to be economically produced. An example is the "Subsalt Imaging Project," which will make the 3-D seismic required to find this resource much more economical. Proving this type of technology will lead to millions of barrels of untapped oil trapped beneath the salt.

DELIVERY AND STORAGE

Question. \$1 million is requested to initiate "programs with industry and states to promote increased deliverability...." What kind of programs will be initiated? Direct grants?

Answer. There are two major project activities proposed in fiscal year 1996 for the gas delivery program: 1) the implementation of the Uniform Production Reporting Model (UPRM) guidelines project, and 2) the development of improved and expanded real-time pipeline flow measurement and gas quality monitoring technologies project. Direct grants with a minimum of 50 percent cost sharing are anticipated upon agreement upon the scope of work to be undertaken by states and other contractors for these projects.

The first project is designed to upgrade Federal/state data collection and industry production reporting for oil and natural gas using the UPRM guidelines. States will join in cooperative cost-shared demonstrations to upgrade their natural-gas-production reporting systems to be compatible with the UPRM. A pilot program for implementation of the guidelines from the UPRM study, which was prepared by the University of Oklahoma under grants from the U.S. Department of Energy and the Governor's Office of the State of Oklahoma, would be initiated in fiscal year 1996 with Kansas and Oklahoma. The goal of the study is to develop model guidelines for the best practices and procedures for the 38 producing states related to the gathering, management, and dissemination of oil and natural gas production data. Using the UPRM could increase Federal royalty income by approximately \$600 million by the year 2000. For industry, it simplifies the producer reporting requirements and can save the oil and gas industry approximately \$50 - \$75 million per year in the production reporting costs. The UPRM guidelines will provide for better control of state resources to avoid abandonment of oil and gas wells, will improve states' pollution recovery and underground injection control programs, will enhance states emergency management responsibilities, and it will increase state agency regulatory efficiencies by providing for cross-agency sharing of data within conservation, royalty, and tax agencies.

The second project is the development of improved and expanded real-time pipeline flow measurement and gas quality monitoring technologies for improving the reliability of pipeline operations and ensuring accurate energy deliveries. Improved pipeline gas flow metering and energy measurement technology R&D is necessary to ensure continued efficient and reliable gas

industry performance. More accurate and timely real-time gas flow and energy content technologies will lead to more accurate allocation and better utilization of pipeline capacity and more accurate release of unused capacity thereby increasing deliverability and reliability of delivery.

Question. Will there be cost sharing requirements associated with this program?

Answer. Yes. A minimum of 50 percent cost-sharing is anticipated

Question. The Committee did not fund this program in FY 95. Has the Department's proposal changed any since last year?

Answer. No, the Department's Gas Delivery program projects and proposal have not changed from last year

ADVANCED TURBINE SYSTEMS

Question. The Department is in the midst of an eight year Advanced Turbine Systems program to develop an advanced turbine system that will "leapfrog" current technology. In FY 96, the Department has requested a substantial increase for this program. What is the funding profile for the Advanced Turbine Systems program?

Answer. The funding profile for the Advanced Turbine Systems Program is as follows:

(\$ Millions)								
FY 92	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
7	9.8	20.7	37.7	44.0	52.5	58.6	44.1	35.8

Question. What level of cost sharing is required?

Answer. The required cost sharing is 25 percent for the initial concept development, 35 percent for component development, and 50 percent for demonstration.

Question. What will be the end product?

Answer. The end product is a gas turbine combined-cycle system for utility application, which will have an overall thermal efficiency of over 60 percent when fired with natural gas, NOx emissions of less than 8ppm, and a 10% lower cost of electricity--all critical parameters for meeting our future energy needs in a clean, efficient, and cost-effective manner.

Question. How will the technologies developed in the program be commercialized?

Answer. The contractors involved in this program are the major gas turbine manufacturers. As the various technologies are developed and demonstrated, they will be incorporated into the manufacturers commercial product line.

Question. Is it imperative that we continue to adhere to the eight year program?

Answer. The eight year schedule resulted from the Clemson Gas Turbine Workshop of 1991. It is the consensus of opinion of the leading utilities, manufacturers, private sector institutes, and Government agencies who attended that workshop. It is important that the schedule be maintained in order to meet key market windows for the sale of gas turbines globally and domestically (and retain market/technology leadership in the U.S.).

Question. What would be the impact of a reduced level of funding in FY 96 that might delay program completion until 2002?

Answer. The request for FY 96 is \$8.5 million below the planning level. If this reduced level of funding is maintained through FY 2002, such that the total funding remains at \$304 million, all the technical objectives will be met. However, the competitiveness of U.S. gas turbine manufacturers with their European counterparts could be affected. The European manufacturers have published goals of reaching 60 percent thermal efficiency by about the year 2000.

Question. What would be the impact if Federal funding was terminated prior to demonstration of the advanced turbine?

Answer. The incorporation of all of the technologies developed under this program into one gas turbine system would demonstrate the commercial readiness of those technologies and establish the system's thermal efficiency. Lacking such a demonstration, the manufacturer would have to rely on their in-house component test stands for limited testing. This could delay technology introduction and result in a piecemeal technology use and unless the U.S. turbine manufacturers were able to fund the technology development on their own, U.S. turbine industry leadership (and market share) would be lost to foreign competitors.

UTILIZATION

Question. The Department proposes to continue gas-to-liquids research at a slightly reduced level of effort. To what extent are these technologies likely to be commercialized in the near to mid-term?

Answer. Recent favorable results of process research in several areas of gas-to-liquids (GTL) make it likely that several GTL technologies could be commercialized in the near to mid-term:

- o In the chemical conversion area, Argonne National Laboratory and others have developed an "ion-transport (ceramic) membrane" to effect inexpensive oxygen separation required for syngas manufacture from natural gas, thereby eliminating expensive cryogenic oxygen-making and reforming, opening up potentials for indirect (two-step) conversion of gas to diesel and other transportation fuels equivalent in price to similar fuels from \$20 per barrel oil or less.
- o also in chemical conversion, researchers appear to have overcome catalyst and product separation hurdles in the crucial first step of the "oxyhydrochlorination" indirect (two-step) conversion of gas to fuels and petrochemicals. The researchers believe that with continued cost-shared

support from DOE they could prove out this advancement at the necessary pilot plant level within 5 years (or less, if external as well as their own internal funding could be made available sooner).

- o in physical conversion (changing its state, as in "liquefying" the gas), Los Alamos National Laboratory and a cryogenic equipment producer are developing a high-efficiency device able to liquefy natural gas in small volumes of the scale produced from single and clusters of remote wells. Amounting to refrigeration without moving parts or the need for electricity, the "thermoacoustically driven pulse tube refrigeration" unit might be ready for deployment before the year 2000. Early commercial uses are seen for remote offshore wells with both gas and oil, but shut in because of the absence of gas pipeline connections. Remote onshore wells can also realize production with the device, as might future "gas" stations offering LNG for alternative transportation fuel

FUEL CELLS MOLTEN CARBONATE TECHNOLOGY

Question. The Department is requesting \$28 million to continue development of molten carbonate fuel cells through two contractors. This funding is requested pursuant to five year agreements recently signed with the contractors.

I understand that \$40 million would be required to fully fund the two contracts in FY 96. Why is the Department now proposing to stretch out this program? Did the Department enter into the agreements knowing it could not request full funding?

Answer. The Department is responding to overall fiscal constraints. At the time the two agreements were negotiated, the developers expressed the need for a funding amount larger than our FY 96 request. Although the Department had planned for full funding of this development from the outset, subsequent fiscal constraints dictated that the Department reduce the request for FY 96.

Question. What is the funding profile for the two contracts?

Answer. The Federal funding profile as agreed to in the cooperative agreements for the two contracts is shown below: (\$ in millions)

	ERC	M-C Power
FY 1995	\$4.7	\$12.3
FY 1996	31.3	23.4
FY 1997	21.2	18.9
FY 1998	20.1	13.8
FY 1999	0.8	2.2
Totals	\$78.1	\$70.6

Question. Why does the Department continue to support two molten carbonate contracts? Answer. The two molten carbonate contracts represent different molten carbonate technologies and approaches aimed at different market entry points. Multiple fuel cell approaches are supported to enable an

industry to evolve (not just a government-selected manufacturer) and enable strong U.S. participation in an international fuel cell industry. Multiple market sector applications are identified requiring different products and different manufacturing and marketing teams. More than one manufacturer is needed for a sustainable U.S. fuel cell industry in terms of competition, product improvement, and pricing. The products are not yet market ready and the manufacturers are just beginning their marketing efforts. There is strength in diversity of approaches and teams and in the synergism of multiple teams. International competitors will likely have a broad catalog of products for market penetration in all sectors. The U.S. can participate successfully only with a broad catalog of products. Large national return on investment is expected from a strong new industry - a weak industry yields no return.

Question. What would be the impact of a further down selection of contractors at this time?

Answer. Reducing fuel cell teams at this time would jeopardize success in the various market segments, reduce benefits to the U.S., and shrink or eliminate the return on the national investment. The Fuel Cell Program objective is strong U.S. participation in an international fuel cell industry. Over \$1 billion of clean, efficient power generation products per year are forecast by the year 2005. Multiple fuel cell products are expected to service multiple markets. The overall power generation market thrust includes a number of U.S. and export market segments. Contractors which are not continued as a result of any down selection may elect to proceed with financing from outside the U.S., thereby reducing the ultimate economic benefits to this nation.

GLOBAL CLIMATE INITIATIVE

Question. \$8 million is requested to initiate a fuel cell market entry initiative as part of the Climate Change Action Plan. Does the Department have a detailed plan for the use of the \$8 million requested?

Answer. The Department plans to use the \$8 million to accelerate the field testing of advanced fuel cell power plants which could be market-ready by the year 2000. Detailed plans will be developed with the participation of potential private sector cost-sharing partners. Identification of these DOE funds in FY 1996 will aid in formation of the field test partnerships, securing costshare of members, site selection, field test design, equipment procurement and help to ensure the successful and cost effective field testing of improved products consistent with rapid market penetration in the 2000 time-frame. The Department has not specified the technologies nor specified the field tests which would be funded, but intends to consider those which would provide the best impact for the public investment in the 2000 time-frame, in agreement with the intentions of the Climate Change Action Plan.

Question. What would we get in return for this \$8 million investment?

Answer. The return to the Nation would be the improved prospects for early participation by the U.S. in the rapidly forming world-wide fuel cell

industry and reduction in greenhouse gas emissions. Rapid market penetration is very important in securing market share considering international competition, and one of the major obstacles to rapid market penetration is the perceived risk in purchasing these all-new types of power plants. To overcome this obstacle of perceived risk, and enable the provision of strong and credible warranties, the manufacturers, their investment backers and prospective users have all indicated that highly successful and convincing field tests are critical. A strong market penetration has been projected to result in a U.S. fuel cell industry providing over \$1 billion in domestic and export product sales by 2005 and over 40,000 industry jobs. The alternative is likely to be the importing of these products.

Question. What is contained in the Department of Defense request for this program?

Answer. The Department of Defense has not requested any funding in FY 1996 for the Climate Change Program or any other fuel cell program applicable to civilian power generation. The prior year (FY 1995) DOD appropriations did include \$18 million for a different initiative within the Climate Change Action Plan. That funding was to provide partial rebates of up to \$1000 per kilowatt, or one third of purchase cost, to buyers of currently available market entry fuel cell power plants. The Department of Energy is cooperating with the Department of Defense in the implementation of those rebate grants to stimulate the market entry of currently available fuel cells and enable the private sector to succeed in reducing the cost of these units to approximately \$1500 per kilowatt from the current value of approximately \$3000 per kilowatt.

ADVANCED CONCEPTS

Question. \$16 million is requested to fund the cooperative agreement for tubular solid oxide fuel cell development. How long must the test unit being constructed be operated to validate this technology?

Answer. The current cooperative agreement with Westinghouse will result in the construction and operation of the first 100 kilowatt solid oxide module. This 100 kilowatt module is the module size planned by Westinghouse for their megawatt-scale market entry units. Following initial checkout operation and characterization in a Westinghouse facility, the unit is to be installed in an electric utility facility for evaluation of its operating characteristics over the range of conditions which a unit might encounter in service. Following these characterization tests, it is expected that the 100 kilowatt solid oxide generator will be operated on the order of a year and that an evaluation would be made at that time regarding further operation by the private sector or disassembly of portions of the plant for internal examination and assessment.

Question. What will be the end product as a result of the Federal investment in this program?

Answer. The end product of the Westinghouse commercialization plan is megawatt scale solid oxide fuel cell power plants which are commercially

competitive with other forms of power generation and have significant additional advantages in the areas of environmental acceptability, modularity, high efficiency and low operating costs. The repeating module in these megawatt scale power plants is expected to be the 100 kilowatt module being developed in the current cooperative agreement with Westinghouse.

Specifically, Westinghouse plans to offer as an end product a 3-10-megawatt complete system. Multiples of this 3-10-megawatt will be used to build bigger power plant systems. One of the larger power plant systems offered will be the solid oxide fuel cell-gas turbine system. This system would be a high efficiency (70% lower heating value) system and would be one of Westinghouse's power market products offered through the Power Generation Business Unit in Orlando, FL.

Question. What is the funding profile for the 5 year agreement?

Answer. A cooperative agreement was initiated with Westinghouse in March of 1991 and extends through November of 1996. The funding profile for the Westinghouse Cooperative Agreement is shown below:

	Federal Funds
FY 1991	\$ 9,323,907
FY 1992	14,979,000
FY 1993	14,795,598
FY 1994	15,785,204
FY 1995	15,910,000
FY 1996	16,000,000*
Total	\$86,793,709

* Denotes estimates of out year funding

The final Budget period (BP5) is 24-months long and includes both FY95 and FY96. Private sector funding through FY 1996 is projected at \$86.1 million or approximately 50 % of total costs.

Question. What, if any, additional Federal investment beyond the five year agreement will likely be necessary to fully develop this technology?

Answer. We estimate that \$75 million in additional Federal investment beyond the five year agreement will likely be necessary to bring the contractor to a commercial prototype.

Question. What has been the level of cost share by Westinghouse under the cooperative agreement?

Answer. Anticipated Westinghouse cost share through FY 96 is approximately 50%. Westinghouse cost share is projected to total \$86.1 million out of the total contract value of \$172.9 million. Cost sharing recognized by DOE accounting to date is somewhat lower due to variance between accounting procedures involving cost participation by field test host utility companies in Canada and Japan.

OIL TECHNOLOGY GENERAL

Question. \$82 million was appropriated for the Oil Technology program in FY 95. Using that figure as an admittedly rough annual baseline, the Department may spend \$640 million on oil research in the eight fiscal years between passage of the Energy Policy Act of 1992 and the year 2000.

The FY 96 justification for Oil Technology states that the program's near term goal is to increase domestic oil recovery by one-half million barrels of oil per day by the year 2000.

Can the Department quantify the success of its programs in terms of this goal?

Answer. DOE's Oil Program can point to specific successes that indicate its impact. During the life of DOE, the enhanced oil recovery (EOR) industry has gone from infancy to providing 11 percent of the nation's oil production at least in part due to DOE programs. EOR technology was nurtured and demonstrated by DOE through cost-shared and incentive programs in the late 1970's and early 1980's. These projects and subsequent expansions of the cost-shared and incentive projects were producing 28 percent of all EOR or roughly 180,000 barrels of oil per day in 1990. The spin-off from these projects is continuing to impact the industry. An additional 16 billion barrels can be recovered by EOR if the Oil Program and industry are successful in solving problems that hinder economic application of these processes. EOR is just one target of the program. We continue to collect data on the increased reserves from our field demonstration projects. Participants in the projects are reporting that other producers are adopting the demonstrated technologies. We believe that industry will continue to quantify the results of the program through such organizations as the PTTC and to evaluate the success of the Department's program.

Question. Would none of these increases have occurred without the Federal oil program?

Answer. Industry continues to develop technology that will increase the production of domestic oil resources. The Department's program acts as a catalyst to increase the rate of development of technology and market penetration, bringing the needed technology on line in a much more timely fashion. The program also focuses on oil and gas technologies whose development time frame is too long or technical risk is too high for individual companies. Industry R&D trends to smaller budgets, more applied research, and focus on overseas targets are indicative of this. The abandonment rate of wells makes the timing issue even more relevant.

Question. How do you reconcile current spending levels for the oil program with the Administration's continued opposition to oil development in areas -- such as ANWR and the Outer Continental Shelf -- that would produce Federal revenue and would likely dwarf the incremental production increases that the oil program is designed to produce?

Answer. The nation has significant domestic oil resources in currently producing provinces that can be developed with improved technology. The subsalt and deep Gulf of Mexico potential that the program addresses are examples of areas that have significant potential.

Question. To what extent are the benefits of the oil program negated by relatively small changes in the price of oil?

Answer. While changes in the price of oil both up and down affect the economics of domestic production and can have major effects on the amount of reserves that are economical to produce, these fluctuations do not negate the benefits of the oil program.

Question. Are we shouting at the wind with these programs?

Answer. No. There are significant oil resources in the United States, including 351 billion barrels of known (discovered) oil and 25 to 60 billion barrels of undiscovered potential. Oil is a critically strategic national resource that requires national stewardship.

EXPLORATION AND PRODUCTION SUPPORTING RESEARCH CHARACTERIZATION

Question. A \$4.2 million increase is requested for Reservoir Characterization research. The justification indicates new programs are to be initiated for Geoscience Measurements and a Data Repository. What are these new initiatives designed to produce?

Answer. The Geoscience Measurement initiative is designed to develop instrumentation, software, and theories for new understanding for maximizing recovery from fractured reservoirs, to understand the relation of shear wave to reservoir characterization parameters, and to scale from core analysis to reservoir performance. These measurement tools will better describe the reservoir environment and result in more informed application of oil recovery technologies.

The Data Repository initiative is designed to capture and preserve large volumes of geoscientific data, which has been acquired through many years of production and now is at risk of being destroyed as some companies shift exploration and production activities overseas. Main beneficiaries of the data repository initiative are small, independent operators, who are rapidly becoming the dominant players in our domestic oil industry. Phase I, Feasibility and Assessment Study was completed in FY 94; Phase II, Planning and Pilot Study is being completed in FY 95; and Phase III, Implementation and Operation is planned to be initiated with the FY 96 requested funds.

Question. Does either new initiative represent a multi-year commitment?

Answer. Both initiatives require a small out-year commitment.

Question. If so, how much will be required to complete the program?

Answer. The Geoscience Measurements initiative requires \$500K in FY 97 and \$200K in FY 98. The Data Repository initiative requires \$1,000K in each of the two out-years.

Question. Who will perform the work?

Answer. The performers have not been determined at this time but will be selected through competitive procurements.

Question. How much cost sharing will be required if any?

Answer. The Geoscientific Measurements Initiative will have an overall minimum cost-sharing of 25 percent. The Data Repository initiative will have considerable cost sharing as companies will have large volumes of data that they will contribute to the effort. In some cases companies will also underwrite some of the initial costs of storage and upkeep, as Shell has done with the University of Texas in the transfer of the Shell Midland Repository.

TECHNOLOGY TRANSFER

Question. The Department has proposed an increase for Technology Transfer, I presume to make certain that oil technologies developed in Federal programs are available to industry.

If the technologies developed in these programs are valuable, why is it necessary to fund a significant technology transfer program? Aren't individual firms -- both small and large -- at least aware of the work being done by the Department?

Answer. Between 30 percent and 40 percent of domestic oil is produced by thousands of independent producers. Most of these independents are small companies that have no resources for research, and many are not aware of the technology available from DOE or other sources. DOE's oil program objective is to foster technology advances and to create a climate of information exchange which reaches as many oil producers as possible to advise them of results from DOE-supported and other research that will help them increase production and lower costs, thus increasing the production of this strategic national resource that is vital to the security of our nation.

Question. Why will entrepreneurs not access these technologies of their own volition and at their own expense?

Answer. Some entrepreneurs do access technology at their own volition and expense and some companies are participating as partners in the Department's oil technology transfer effort. Sometimes it can take years before a new technology comes into common practice in the oil industry. As with any successful commercial effort, marketing and product visibility are vital. If the technology that public funds develop are to have near-term payoff then a major thrust to inform the industry of the potential benefits of the new technology must be implemented.

Question. How much is included in the request to fund the Petroleum Technology Transfer Council?

Answer. \$2.5 million

Question. Do the Council and the Department have a common understanding that Federal support for the Council -- assuming such support is forthcoming -- will cease at the end of the five year start-up period?

Answer. Yes. The PTTC and the Department understand that Federal support will cease at the end of the five year period.

ADVANCED COMPUTATIONAL INITIATIVE

Question. Funding has been requested to continue the Advanced Computational Initiative in the Oil Technology program. As you know, the rescission bill that is now in conference proposes to rescind FY 95 money for this program.

Are there no other sources from which industry could procure the type of computational technology that will be made available under this program?

Answer. Technology that is being collaboratively developed by the National Laboratories, Universities and Industry is not available from other sources. Much of the work is made possible and economically feasible because it is built on existing computer code and technology developed in the weapons and other energy programs. The computational capability developed in the ACTI program will greatly advance the state of the technology that now exists in a number of petroleum technology areas necessary to efficiently produce domestic natural gas and oil. The service industry that provides much of the computational capability to the petroleum industry is a participant in many of the ACTI projects.

Question. What exactly would the requested \$4.1 million purchase (computer time, salaries of programmers, etc.)?

Answer. ACTI funds pay for both the National Laboratory and University participation in the selected collaborative projects. The actual cost of these projects include computer time, research equipment, researcher salaries, and other costs associated with conducting each project.

Question. What will industry contribute to this program?

Answer. ACTI is a cost-shared partnership program with no funds flowing from DOE to the partners nor from the partners to DOE. Rather each cover the cost of their participation in each project. On average this amounts to a 55 percent cost participation by industry.

Question. What does the Department expect to achieve in terms of additional energy resources recovered?

Answer. The ACTI projects cover a broad range of petroleum technology, both natural gas and oil, that addresses the needs of the industry. The additional energy resources expected to be recovered include the increment that the specific technology being developed will cause to be economical enough to cause to be produced. An example is the "Subsalt Imaging Project," which will make the 3-D seismic required to find this resource much more

economical. Proving this type of technology will lead to millions of barrels of untapped oil trapped beneath the salt.

RECOVERY FIELD DEMONSTRATIONS

Question. Conferees are currently considering a rescissions bill that may rescind FY 95 appropriations for Class 4 of the Recovery Field Demonstration program. If those funds are rescinded, it is highly unlikely that Congress will fund additional new starts in the Recovery Field program in FY 96.

What will be required in FY 96 simply to continue or complete classes currently underway?

Answer. Class 1 requires no additional funding after FY 1994. Class 2 funding of \$3.1 million in FY 1996 will complete all funding requirements. Class 3 funding in FY 1996 is \$7.2 million. Additional funding of \$3.3 million will be required in FY 1997. Class 4 projects require \$5.05 million in FY 1996, \$8 million in FY 1997, \$6 million in FY 1998, and \$5 million in FY 1999. This totals \$15.4 million in FY 1996.

Question. Can the Department identify specific technologies produced in the Recovery Field program that have resulted in quantifiable, increased domestic oil production?

Answer. The program is in its infancy in that only 8 of the 27 projects active at this time have been operative for more than two years (another 6 projects are expected to start before July 1995). Demonstrations of near-term technologies are expected to show incremental recovery within three years and mid-term technology demonstrations will require up to five years. Estimated improved recovery varies up to several times current production. The most successful projects should generate more public benefit than the entire program cost. Two examples will help to demonstrate this fact:

- Lomax Exploration Company is demonstrating the application of waterflooding in fractured Uinta Basin reservoirs with waxy oils, reservoirs previously considered unsuited to waterflooding. The Lomax project is projected, based on results to date, to produce 2.4 million barrels of oil, resulting in over \$12.7 million in taxes and royalties. The eleven waterflood units in development in the basin as a direct result of the Lomax success are projected to produce 31 million barrels of additional oil, providing taxes and royalties (much of the production is on federal leases) of over \$150 million. The basin contains even more reservoirs amenable to the technology, suggesting even larger future benefits.
- Amoco development of the Double Displacement process through its demonstration in West Hackberry field is expected to produce 3 million incremental barrels of oil from the reservoir that had produced 6.8 million barrels of oil before becoming uneconomic. Application of this technology in similar, deep Gulf Coast salt dome reservoirs is estimated to produce 40 percent more oil than conventional recovery.

Question. The Department proposes to continue funding for the Rocky Mountain Oilfield Test Center.

Will the Center be impacted by the proposed sale of the Naval Petroleum and Oil Shale Reserves?

Answer. Yes. The Rocky Mountain Oilfield Test Center is located within the Naval Petroleum Reserve #3. Therefore, the sale could eliminate the Center's operation.

Question. Has the Test Center been successful thus far?

Answer. Yes, given the short time the Center has been in operation (7 months). Industry has expressed significant interest in using the facility including several tests that have been conducted that could directly assist independent oil producers.

Question. How closely linked are the Test Center and the Class Reservoir program?

Answer. The two programs have different but complementary objectives. The Test Center provides a government field setting to try equipment that may have more risk than a company is willing to accept for its own well. The Class program, on the other hand, provides funding to operators to develop and test new technologies in their own wells.

Question. Does it make sense to keep the Center open should the Class Reservoir program be terminated?

Answer. Yes, since they have different but complementary objectives. The benefits of either would be the same without the other being in operation.

EXPLORATION AND PRODUCTION ENVIRONMENTAL RESEARCH

Question. Your written testimony states that as much as 500,000 barrels per day of domestic oil production could be lost due to "stringent environmental compliance requirements." In response, the Department is requesting increased funding for work on regulatory streamlining and environmental risk assessment as part of the Oil Technology program.

Have the Department's efforts in this area led to any changes in regulatory requirements or practices?

Answer. Yes, significant benefits have been achieved, with relatively small cost to the taxpayers.

Question. What kinds of changes?

Answer. Considering the fact that the Exploration and Production Environmental Research program is a relatively new and low budget effort for the Department of Energy, it has had an impressive performance. The following demonstrate some of the changes in regulatory requirements or practices that have resulted from the DOE program.

- The Environmental Protection Agency's (EPA) regulation for offshore operations was modified to allow continued discharge of produced water after demonstration of minimal risk from naturally occurring radioactive materials (NORM). The risk of NORM in produced water discharge was characterized by DOE's program.

- Where environmental risks are small or do not exist, significant costs can be avoided by obtaining variances from underground injection Area of Review (AOR) studies required under the Safe Drinking Water Act. A DOE pilot study of environmental risk in the giant East Texas field has caused the Underground Injection Control Director for the State of Texas to recommend issuing a variance from AOR requirements for injection wells in the East Texas field, the largest producing field in the lower 48 States.
- Working through the Interstate Oil and Gas Compact Commission, DOE has supported a cooperative effort between the States and the Bureau of Land Management (BLM) to streamline the regulation of gas and oil operations on Federal lands. Colorado and Wyoming have signed memoranda of Understanding (MOU's) with BLM, agreeing to divide up their administrative and inspection efforts, rather than duplicate them. California is very close to signing a similar MOU. Other areas of cooperation include the design of forms that would be acceptable to both State and Federal agencies, and sharing of data bases among agencies. Industry and environmental groups participate in this effort along with the State and Federal agencies.
- The DOE staff participated with the California Oil Survival Team in recommending revision of the permitting process for pipelines in California. The State legislature has passed a bill mandating that the State's Fire Marshall assess the fitness and safety of the pipelines in the State. The DOE's "California Pipeline Project" will work with the fire marshall to help update the laws in California to allow the oil industry to apply for permits to upgrade and retrofit pipelines to increase the safety and efficiency of the industry.
- DOE's Gulf of Mexico (GOM) Discharge Project studies have benefitted the industry by working with EPA in its determination of offshore effluent discharge requirements, and with the State of Louisiana in its Environmental Quality Act requirements for open bay produced water discharges. Based on data provided by DOE from two ongoing GOM Discharge Project studies, the Louisiana Department of Environmental Quality issued a variance from Louisiana Environmental Quality Act Requirements for open bay produced water discharges that are covered under existing permits.
- DOE funded the development of an underground injection control risk-based data management system through the Underground Injection Practices Research Foundation. This system is now being implemented by several States. It benefits States, EPA and industry through a more efficient risk-based approach to regulatory decision-making. Ohio and California are installing the system at their own cost and industry is cooperating by providing needed data.

Question. If no changes have occurred how does the Department justify the proposed increase in FY 96?

Answer. Many important changes have already resulted from this program. Positive feedback from our customers, both regulators and industry, has

dictated our request. Much remains to be done to meet deadlines dictated by regulatory agencies, especially an expected deadline from EPA on AOR variances. Most of the increase in requested funding is to assist States in meeting this deadline.

Question. How closely does the Department work with industry in identifying and addressing regulatory inefficiencies?

Answer. A strategy of the Department's Domestic Natural Gas and Oil Initiative is to promote Industry/Government Partnerships. Of all strategies, this is the one this program uses most extensively.

Program staff participate on issue/advisory groups to the American Petroleum Institute, Gas Research Institute, Petroleum Environmental Research Forum, Independent Petroleum Association of America, and others. Often this participation is as invited ex-officio members.

Also, the program continuously monitors "research by others" as a way of better defining industry needs, i.e., analyzing where they are spending their research dollars, where they are not, and why. In these ways, DOE keeps abreast of industry's highest priorities in environmental regulation and compliance.

The program not only works closely with industry for planning research, but appropriately involves industry and other special interests in implementation. The contractor conducting the Gulf of Mexico Production Discharge study has built a prestigious scientific review board to audit the progress of this project. DOE serves on this board. In the AOR project, DOE is requiring participating States to form coordinating panels consisting of major and independent oil producers.

PROGRAM DIRECTION

Question. A significant reduction in Contract Services at the Energy Technology Centers is proposed. What functions will not be performed as a result of this reduction?

Answer. No functions performed at the Energy Technology Centers will be terminated, however some services will be reduced.

Morgantown Energy Technology Center (METC):

- Reduction of technical reporting and documentation of technology transfer.
- Reduction of METC sponsored professional meetings and other customer interface conferences.
- Reduction of photography, graphics and library services in direct support of project management.
- Curtailment of personal and real property management.
- Reductions to storeroom and transportation traffic management.
- Reduction of site management support.
- Reductions of office management, acquisition, and financial services.
- Delays in procurement and financial management processing.

Pittsburgh Energy Technology Center (PETC):

- Reduction in services for project management, program implementation and technical planning, general building operation and maintenance, R&D

utilities management, and computer software development and maintenance.

- Reduction in services for security, janitorial and groundskeeping.
- Reduction in services for accounting and travel data management, computer operations and systems support, contract closeout, and cost/pricing support.
- Reduction of library services and reduction of security and maintenance services.

Bartlesville Project Office (BPO):

- Reduction in utilities for M&O and Federal facility.
- Reduction of upgrades for ADP equipment, supplies, maintenance and support.
- Inability to maintain schedule to publish Quarterly Progress Reports.
- Reduction in training for BPO staff.

Metairie Site Office (MSO):

- Reduction in HBCU Summer Intern Program.

We are currently streamlining operations throughout Fossil Energy. We are hopeful with the many streamlining efforts underway to minimize the impact of the proposed reductions.

Question. The Department proposes to fund a portion of M&O contract costs at the Bartlesville Project Office in Program Direction rather than Oil Technology. Why has the Department proposed this change?

Answer. The Office of Fossil Energy operates three field facilities that perform research. Both the Pittsburgh and Morgantown facilities have historically requested operating funds in the Program Direction budget. The Bartlesville facility was not operated by the Department from FY 83 to FY 94. It was operated by the IIT Research Institute under a cooperative agreement, therefore there were no operating funds requested for this facility over these years. In FY 94, the Bartlesville facility was returned to Departmental operation under an M&O contract requiring an operational budget. In order for these budgetary requirements to be clearly stated and not hidden within the Oil Technology program, and for consistency in funding requests across the three facilities, it is proposed that these costs be shifted to the Program Direction budget.

Question. What is the total contract cost at Bartlesville in comparison to FY 95?

Answer. The total cost to operate the Bartlesville facility, conduct in-house research, and implement portions of the oil program is \$23.7 million in FY 95. The details of the FY 96 budget have not been negotiated, but we do not anticipate any major changes in FY 96.

PLANT AND CAPITAL EQUIPMENT

Question. The Department has not proposed funding for renovation of the National Institute for Petroleum and Energy Research (NIPER). Why is this not a priority?

Answer. The Department is going through a streamlining activity under which the mission of all facilities and offices are being evaluated. This exercise will determine the priority of continued renovation of the NIPER.

Question. What additional work would be accomplished in FY 96 assuming the same funding as FY 95?

Answer. If FY 96 funding remains at the FY 95 level the following work would be conducted: initiate engineering planning of a Vehicle Dynamometer Facility (\$440K); conversion of Building 6 to offices (\$200K); and replacement of Building 3 roof (\$210K).

The Vehicle Dynamometer Facility is presently located in Building 6. This building is considered unfit for offices because of ventilation, electrical, mechanical problems and fire hazards. It is planned to develop facilities to relocate these operations from Building 6 and renovate this building to house offices only.

COOPERATIVE RESEARCH AND DEVELOPMENT

Question. Throughout the Fossil R&D budget justification, the Department emphasizes cost sharing as a measure of industry support for its programs. Yet the Department also proposes to terminate the Cooperative Research and Development program, which has produced greater than 50% cost sharing in most of its projects.

Why has the Department proposed to terminate this program? Is it the Department's view that the technologies developed in this program are not consistent with the general priorities of Fossil R&D program?

Answer. Both UNDEERC and WRI have made tangible progress in realigning from speculative strategic areas and planning now focuses on areas which have improved commercial prospects. They are aligned with DOE programmatic interests, such as coal, natural gas, petroleum, energy efficiency and renewables, and environmental technology. The cooperative research and development, which the department has been supporting, has been undertaken to enable these facilities to become self supporting in the commercial marketplace. Funding was planned to decrease to the point where self sufficiency was achieved. The most revealing measures of progress towards self-sufficiency goals of the UNDEERC and WRI assistance programs are the steady growth of industrial interest in the JSR Programs. This has occurred earlier than the Department projected thereby eliminating the need for funding in fiscal year 1996.

Question. Over the past three years, to what extent have the research centers participated in DOE programs not funded directly through the Cooperative R&D program?

Answer. During the last three years WRI has had very insignificant support from other DOE programs. UNDEERC has applied for and was successful in obtaining over one million dollars in support from Environmental Management and a competitive Fossil Energy procurement.

Question. In FY 95, \$733,000 was appropriated for tribal programs as part of Cooperative Research and Development.

Why has the Department not requested funding for this program in FY 96?

Answer. Budget constraints limited available funding and this program could not be supported.

Question. Have these funds been obligated or committed?

Answer. The \$733,000 amount has been committed but not fully obligated yet. Program scope has been defined and part of the work is completed.

Question. If so, what types of programs have been funded?

Answer. The completed work includes an analysis of electrical and thermal load data from the Tok, Alaska area. Balance of the activities would include cost evaluation of steam turbines to meet the power needs of Tok, a second workshop to present completed work on cost and technical aspects of power generating systems at Tok and a detailed process design work for the selected power generation technologies.

FOSSIL ENERGY ENVIRONMENTAL RESTORATION

Question. The justification notes that the total cost of currently identified environmental corrective actions is projected to be \$70 million.

Is the Department confident that this figure has not risen since the "Tiger Team" assessments of 1991-1992?

Answer. The initial cost projections for correcting the environment, safety and health (ES&H) deficiencies identified during the Tiger Team assessments at Morgantown Energy Technology Center (METC), Pittsburgh Energy Technology Center (PETC), and Bartlesville Project Office (BPO)/National Institute for Petroleum and Energy Research (NIPER) was approximately \$81 million. During the last several years, progress has been made in correcting many of the identified deficiencies, as well as developing improved cost estimates for the remaining corrective actions. Additional deficiencies have been identified through other assessment and oversight activities conducted by DOE and external ES&H regulatory agencies. The five-year ES&H planning estimate for addressing known Federal, state and regulatory ES&H requirements at the three facilities, including environmental remediation at offsite locations, is approximately \$70 million.

Question. To what extent is the Department able to predict the cost of corrective activities for projects currently underway?

Answer. The ES&H activities and costs necessary for project planning, implementation, closeout and decommissioning of a research, development and demonstration project are typically included in the project planning efforts. Although costs associated with ES&H compliance are included, the costs associated with noncompliance and subsequent corrective actions are not. The assumption is that if the project is implemented in compliance with the ES&H requirements, there will be no need for subsequent corrective actions. Projecting cost estimates for addressing potential future ES&H deficiencies is

highly speculative and is dependent upon several factors, including the timing of corrective action (e.g., delays in addressing soil contamination could result in costly groundwater remediation activities as contaminants migrate from the soil into the groundwater).

Question. Are such costs built in to project estimates?

Answer. The ES&H activities and costs necessary for project planning, implementation, closeout and decommissioning of a research, development and demonstration project are typically included in the project planning efforts.

Question. Notwithstanding current environmental statutes, is the Department confident that all of these actions represent legitimate threats to the environment or to health and safety?

Answer. The various ES&H deficiencies that have been identified at METC, PETC and BPO/NIPER have been prioritized based on their threat to human health and the environment. Aside from the fact that corrective actions are required to achieve compliance with Federal, State, and local ES&H requirements, failure to implement the majority of these corrective actions would result in imminent and significant risk to workers, the public, and the environment. Some examples include ventilation problems, inadequate emergency preparedness programs, electrical and fire protection deficiencies, (e.g., installation of fire alarms), incomplete industrial hygiene surveys, inadequate environmental monitoring, and contaminated soils and groundwater.

Question. Are there particular projects whose costs the Department feels exceed the threat posed by the hazard?

Answer. The Office of Fossil Energy prioritizes its ES&H activities based on their potential for risk reduction for workers, the public, and the environment in accordance with the DOE ES&H Management Planning process. In general, the prioritization results in the funding of those activities which pose the greatest risk to workers, the public, or the environment. In limited circumstances the ES&H regulatory agencies may require the Department to pursue environmental cleanup actions at offsite locations where the current risk to human health and the environment due to actual exposure to contaminants is negligible. However, even though the current risks may be relatively low due to a lack of current exposure, failure to adequately address these problems today, may result in significantly more costly remediation projects in the future when the potential risks become actual risks due to expanded areas of contamination or the establishment of actual exposure pathways.

Question. For cost shared projects, are non-Federal participants responsible for a share of the cost of corrective actions?

Answer. Depending upon the specific contract language, the liability of the Federal government and the non-Federal participant varies. For example, for cost shared projects managed through BDM, the Management and Operating contractor for NIPER, the contract language specifies that the non-Federal participant is responsible for 100% of unplanned corrective or remedial actions

resulting from a project. In other cases involving clean coal research and development, the contract language is silent on the issue of DOE vs non-Federal participant liability.

Question. Why is there such a substantial increase (\$5.8 million to \$8.4 million) for "recurring ES&H activities" at the Energy Technology Centers and Bartlesville?

Answer. The increase in the "recurring ES&H activities" at METC, PETC and BPO/NIPER is due to past deferral of corrective actions to address known ES&H deficiencies. Many of the necessary correction actions have been deferred over the years resulting in the appearance of increased costs.

ENERGY TECHNOLOGY CENTERS AND SITE OFFICES

Question. I have already discussed the likelihood that Federal support for energy research will be reduced over the next five years. Eventually, this may necessitate further consolidation of DOE facilities. I know this is a difficult subject for Sen. Byrd, Sen. Specter and other members of this committee who strongly support the fine work being done at the energy technology centers, the site offices and national laboratories. However, tough questions must be asked.

Looking down the road, is there a level of funding at which we can no longer afford to support the current research infrastructure within Fossil R&D?

Answer. Each of us know that some base level of funding is needed to maintain a viable research center. Fossil Energy throughout its existence in the DOE has had to deal with this issue. Given the current public sentiment towards all federal expenditures, I know the Department will once again have to take a hard look at this issue. Just as DOD was forced to close military bases as its budget declined, FE will have to address this issue if it appears that funding is expected to decline and will continue to decline in the future. There is simply no way of avoiding this issue.

Question. At what point can we no longer afford to maintain two Energy Technology Centers?

Answer. We have thus far not had to deal with this issue, but a ball park estimate is FE could not afford two ETC's if our R&D budget were to go below \$250 million.

Question. How integrated are the management and administrative functions of the two technology centers? Are plans underway to consolidate further?

Answer. Yes the Secretary has announced her proposal to combine the administrative staffs of METC and PETC and consolidate other field activities in Fossil Energy. With this combination at METC and PETC we plan to reduce Federal FTE's by 90 as we achieve the improved efficiency from this combined staff.

Question. Are these issues addressed in the Strategic Realignment?

Answer. Yes, the DOE strategic alignment reflects these changes at METC and PETC.

Question. The Bartlesville Project Office has evolved over the years from an Energy Technology Center to its current configuration as a project office whose programs are mostly conducted by private contract.

Does the Department view the structural changes at Bartlesville as a success, a failure, or a work in progress?

Answer. The Department views the changes at Bartlesville as a work in progress since it has been operating under an M&O contract for only a year and a half. However, with the changes that the Department has initiated, there is every reason to expect success.

Question. Does the Federal research dollar go farther under a GOCO arrangement such as that in place at Bartlesville?

Answer. In the near-term, GOCOs cost slightly more than GOGOs. However, the cost of personnel is on a pay as you go basis under the GOCO and no retirement entitlement is accrued under the Federal retirement system. Under a GOGO, the Department is developing a significant retirement entitlement for the federal personnel which is usually neglected when estimating the total long-term cost.

Question. Is a facility operated under this arrangement more likely to gain a greater degree of self-sufficiency?

Answer. Yes. The profit motive provides incentive to the contractor to actively pursue work for others which can decrease the overhead costs to the Department.

Question. Has thought been given to employing a similar strategy at the remaining Energy Technology Centers?

Answer. As part of the streamlining initiative we now have underway in the Department, we plan to explore all options. We intend to look very seriously at whether the use of an M&O at PETC and METC could improve the efficient operations at these centers. The Department currently makes extensive use of M&O's and this has proven to be a very effective Management approach.

Question. Funding for the Pittsburgh Energy Technology Center will decline by more than 30% according to the budget justification.

Why will total FTEs remain constant in FY 96?

Answer. The Department has just now completed an overall review of both the Headquarters and Field staffing. The objective of this review is to identify areas where programs and staffing have gotten out of line and where greater efficiency is possible. As part of this review the Department has proposed an amendment to the FY 1996 Budget to reflect these savings. The situation you describe will no doubt receive added attention as our overall staffing levels are now proposed to decline in FY 1996.

Question. Why do total FTEs in Advanced Clean Fuels Research remain constant when funding for this activity will be reduced by nearly 50%?

Answer. Just as described in the previous answer, we intend to have every facet of the program thoroughly reviewed and bring about a closer match of staffing and program activity. It is important to remember however, that dollars are not the measure of program activity, however, the specific situation you describe will be critically reviewed.

Question. The Bartlesville Site Office is engaged in cooperative research with Venezuela and Russia.

What is the nature of these research agreements? Do the agreements primarily support Fossil Energy R&D objectives or U.S. foreign policy objectives?

Answer. The Venezuela Memorandum of Understanding (MOU) for Cooperative Research in the field of Energy Research and Development, which has been active for 15 years, supports the Fossil Energy R&D objectives. The balanced exchange of energy technology information and joint research efforts in the MOU focuses on technology development for improved recovery from existing oil reservoirs. The US oil industry has benefitted from Venezuela's extensive experience in producing heavy oil, especially using thermal methods.

The Work with Russia, which is wholly funded by a grant from the Agency for International Development (AID), has both research and foreign policy objectives. A technology center in Tyumen, Siberia and a US site at the University of Tulsa, Oklahoma that were established in FY 1995 aim to aid both the US and Russian center members by: 1) exchange of technical information on exploration and production technologies, 2) organizing conferences and workshops, 3) encouraging business relations between US and Russian petroleum industries, and 4) providing technical assistance in evaluating production problems and potential solutions. The center, which is expected to be self sufficient within two years, receives membership fees from participating industry.

Question. At the request of Senator Spector, who also serves on the Appropriations Committee, I would like to ask about the future role of the Department's Pittsburgh Energy Technology Center. I am advised that at the Pittsburgh Center, some of the best scientists, engineers, mathematicians, coal researchers, and health and safety experts in the world have made significant contributions, working in partnership with the coal industry, to development more safe and effective methods for coal mining as well as low-cost, clean, highly efficient processes for utilizing coal, our nation's most abundant fossil fuel.'

Could you discuss the current activities at the Pittsburgh Energy Technology Center and how you perceive its role under the Department's strategic alignment initiative?

Answer. The Department of Energy's Pittsburgh Energy Technology Center (PETC), together with other Federal organizations co-located at the Bruceton Research Center, comprise the largest coal research complex in the world. Located just outside the city of Pittsburgh, the Bruceton Research Center accommodates PETC (a DOE field installation), a major portion of the Department of the Interior's Bureau of Mines research activities, and a

component of the Department of Labor's Mine Safety and Health Administration.

PETC, and the entities forming the Bruceton Research Center, are unique because together they form an RD&D complex ideally suited to supporting the coal industry, an industry that is vital to the U.S. economy, and one that is clearly both in need of, and worthy of, Federal support. PETC is the only Department of Energy Fossil Energy Field Site that could accommodate a major consolidation of all Fossil Energy RD&D operations--no new administrative buildings or rental space would be required. The organizations at the Center have participated in Federal coal RD&D for a period of almost 100 years. Together, the organizations at the Bruceton Research Center represent a public investment of approximately 400 million dollars.

PETC is the only Department of Energy facility having a mission almost totally directed to coal research, development and demonstration. Today, PETC is leading the development of a new generation of cleaner, more efficient coal technologies. PETC's programs cover the entire cycle of coal utilization, including coal preparation, coal combustion and electricity generation, and flue gas cleanup. PETC also performs work on improved processes for the production of liquid transportation fuels from coal and manages demonstration projects under DOE's Clean Coal Technology Program.

Formidable investments have already been made: investments in facilities, know-how, and human resources. Its R&D facilities are one-of-kind national assets, available for use not only by Federal and State governments, but also by the private sector. Its scientists and engineers are recognized internationally as experts in coal science and technology. Its ability to develop and direct national and international coal RD&D Programs has been amply demonstrated. PETC is uniquely and ideally suited as the Federal organization in which to vest responsibility for coordination of the entire Federal coal RD&D Program.

Coal is the nation's and the world's most abundant fossil fuel. Globally, its known reserves are vast, greatly exceeding those of oil and gas combined. It is generally acknowledged by all energy experts that coal will, for the foreseeable future, continue to play a major role in both the U.S. and throughout the world as a fuel for producing electric power.

Currently, approximately 30 coal companies in the U.S. extract about 70 percent of the one billion tons of coal produced annually. Of these, only one company maintains an R&D Laboratory. Furthermore, while coal use is projected to increase substantially in the U.S. over the next several decades, its price is expected to decline over the same period. Therefore, it is unlikely that coal companies will be able to afford the RD&D expenditures necessary to maintain world leadership. It is also essential that the coal industry maintain its competitive edge and continue to maintain operations in the U.S.

It is evident that the R&D partnership that helped create our strong coal industry must be nurtured in the future, a period in which the need to scrupulously control all Federal expenditures will be acute. It is also clear that the consolidation and streamlining of Federal energy (including coal) RD&D is imminent.

PETC and the Bruceton Research Center are unique facilities that offer the Federal Government an ideal site for consolidating and streamlining a number of vital Federal coal RD&D functions, and this is the role PETC envisions under the Department's strategic alignment initiative.

CLEAN COAL TECHNOLOGY GENERAL

Question. The Administration has proposed ending the Clean Coal program following completion of the 43 projects already selected. Given the funding constraints under which this committee must operate, it is safe to assume that the program will indeed be terminated.

But there is still some question about the disposition of the large unobligated balances remaining in the Clean Coal program. I recognize that most of these balances are committed to individual projects. I also recognize that Clean Coal's advanced funding mechanism has contributed to the high level of non-Federal cost sharing achieved in the program. However, I know many Senators who have asked why the program should be allowed to run its course when hundreds of millions of dollars could be saved by terminating the program outright.

Of the \$2.7 billion appropriated to the Clean Coal program, how much remains unobligated according to the Department's most recent estimate?

Answer. As a result of the recent \$200 million rescission (P.L. 104-6), the Clean Coal Program appropriations have been reduced to a total of \$2.5 billion. Of this \$2.5 billion, \$2.26 billion has been made available through FY 95 and \$1.28 billion has been obligated onto cooperative agreements. The remaining unobligated balance is \$980 million.

Question. How much remains uncommitted to selected projects?

Answer. All of the \$2.5 billion appropriated for the Clean Coal Program, \$2.26 billion has been committed to projects except for approximately \$14 million. The program's commitments stated here are for all projects selected, however there is still one project for which a cooperative agreement has yet to be signed. These uncommitted funds are to be used for program direction, after the current fiscal year, and cost growth in the on-going projects.

Question. In a House hearing in March, the Department testified that only \$10 million will be required for Clean Coal in FY 1996. This is a reduction of \$35 million from the FY 1996 budget request.

What is the reason for this change? Does the revised request assume that all go/no-go decisions on individual projects will be made as currently scheduled?

Answer. This change was proposed since adequate Appropriations are available to meet scheduled obligations through the end of the current fiscal year. The revised request does not imply any change in the management of on-going projects. DOE will continue to manage Clean Coal projects in the same manner that it has reported to Congress.

Question. Has a budget amendment reflecting this change been officially submitted to Congress?

Answer. A copy of the amendment, as transmitted to Congress by the President, can be found in House Document 104-39, page 10.

UNOBLIGATED FUNDS

Question. In its May, 1994 Completing the Mission report to Congress, the Department estimated that between 0 and \$300 million in funds appropriated for the Clean Coal program will not be necessary to complete currently selected projects. I'll call these "surplus" appropriations for lack of a better term. As I understand it, this estimate is based on a statistical analysis of potential project terminations and other factors.

As you know, Congress approved a rescission of \$200 million from the Clean Coal program as part of the Department of Defense Supplemental bill passed before the recess. This rescission was based in large part on the Department's estimate of "surplus" appropriations.

Does the Department's estimate factor in expected cost growth in projects that would be completed, or is cost growth in those projects to be financed from the \$300 million in "surplus" funds?

Answer. The analysis does include anticipated cost growth. The analysis first looked at each project on a case-by-case basis and arrived at an expert judgement of the likelihood of that project (a) completing as expected, (b) terminating before the completion, and (c) experiencing cost growth. These individual assessments were then combined using a probabilistic, risk analysis methodology to arrive at overall anticipated program needs. This approach, therefore, uses anticipated cost growth for each project as part of the analysis. The nature of this approach avoids using a worst case scenario (i.e., maximum cost growth for each project) to arrive at overall program needs.

Question. How has the Department derived its estimate of cost growth?

Answer. A group of Government workers who are most familiar with each project convened and reached a consensus as to the likely needs for each project. Both field and Headquarters personnel were involved.

Question. Given that cost growth allowances are discretionary, what guidelines does the Department use to determine whether it will pay for cost growth on a specific project?

Answer. The criteria used by the Department to arrive at cost shared, cost growth decisions were reported to Congress in Appendix A of the May 1994 Comprehensive Report "Clean Coal Technology Program: Completing the Mission."

Question. Given the \$200 million rescission recently enacted, how close are we cutting in terms of the Department's ability to complete currently selected projects without having to terminate any projects for lack of funding?

Answer. The Department anticipates that the current slate of 43 projects can still be completed as planned. The ability to fund program direction and to participate in cost growth for these projects are most impacted by the recent Congressional action.

Question. What is the Department's current estimate of program direction costs through completion of the Clean Coal program?

Answer. The Department estimates that \$210 million will be the total for Clean Coal program direction costs from the inception of the program to its anticipated completion. Of this total amount, about \$93 million would occur after March 1995.

Question. Will this estimate be lowered as individual projects are terminated, or does this estimate reflect projected terminations?

Answer. This estimate was based on the current projects continuing to completion. This estimate will be revised periodically to consider possible project terminations as well as other relevant factors.

PROJECT DELAYS

Question. According to my most recent information, the Department is scheduled to make critical go/no-go decisions in 1995 on at least 13 of the 24 active projects in the Clean Coal program. However, I am also aware that the Department has delayed several of the go/no-go decisions that were scheduled to have been made earlier this year.

At what point does the Department say, "enough is enough," and make a decision to terminate a project?

Answer. The Department has responded to requests from our industrial participants in delaying go/no-go decisions for some of the Clean Coal projects. All Clean Coal projects were selected because they are first-of-a-kind projects which would demonstrate new technology at commercial scale. It is the nature of such projects that not all projects selected will proceed as planned. The Department has been patient while some projects have attempted to redefine themselves at a new site or other similar change to the original proposal. The prime criterion for proceeding is that the original basis of selection has not been violated by the restructured project. During these periods of project reorganization, DOE has limited its financial exposure by not committing new funds until the project has a firm basis for proceeding. Since our industrial partners are paying most of the cost of restructuring, they have a vested interest in reaching a new project definition in the shortest time possible. DOE has both been rewarded by several projects which have successfully restructured and disappointed when several industrial partners have decided to terminate other projects.

Question. Will you provide for me a list of the extensions that have been granted for each of the 24 active projects, and a brief description of the reasons for those extensions?

I understand that extensions are often necessary for a number of reasons. But I also note that Congress can no longer afford to be patient without limit. Funding pressures will lead to close scrutiny of unobligated balances in the Clean Coal program, and it will be difficult for this Committee to defend repeated deferrals of projects. I strongly urge you to make decisions on projects as scheduled whenever possible.

Answer. The list following contains all of the extensions with a brief description of the reasons for those extensions.

CLEAN COAL TECHNOLOGY PROGRAM
LIST OF TIME EXTENSIONS GRANTED TO ACTIVE PROJECTS

CCT-I Solicitation:

Project: York County Energy Partners CFB Cogeneration

Participant: York County Energy Partners, L.P.

Extension Duration (Months)/Reason:

- 4/To Complete Project Definition
- 6/To Complete Project Definition
- 4/Site Change, Participant Change
- 8/Project Definition at new Site
- 4/To Complete NEPA Process
- 5/To Complete NEPA Process

Project: Advanced Coal Conversion Process Demonstration

Participant: Rosebud SynCoal Partnership

Extension Duration (Months)/Reason:

- 20/To Allow Process Modifications & Extension of Demonstration Testing to Enhance Commercialization Potential.

CCT-II Solicitation

Project: PFBC Utility Demonstration Project

Participant: The Appalachian Power Company

Extension Duration (Months)/Reason:

- 6/Evaluation of Impact of CAAA Revisions
- 1/DOE Evaluation of Continuation Application
- 2/DOE Evaluation of Continuation Application

Project: Demonstration of Innovative Applications of Technology for the CT-121 FGD Process

Participant: Southern Company Services, Inc.

Extension Duration (Months)/Reason:

- 7/Project Execution
- 2/Project Execution
- 6/Project Execution
- 3/Project Execution
- 4/Project Execution

Project: Combustion Engineering IGCC Repowering Project

Participant: ABB Combustion Engineering, Inc.

Extension Duration (Months)/Reason:

- 1/To Complete Continuation Application Submittal
- 6/Evaluate Reasons for Increase in Cost Estimate
- 1/Evaluate Alternative Site
- 2/Evaluate Alternative Site
- 1/Evaluate Alternative Site
- 2/Evaluate Alternative Site
- 3/Evaluate Alternative Site

- 2/Evaluate Alternative Site
- 3/Evaluate Alternative Site
- 2/Evaluate Alternative Site
- 5/Evaluate Alternative Site

CCT-III Solicitation:

Project: Commercial Scale Demonstration of the Liquid-Phase Methanol Process

Participant: Air Products & Chemicals, Inc.

Extension Duration (Months)/Reason:

- 2/Review and Approval of Alternative Site
- 3/Review & Approval of Continuation Application
- 1/Review & Approval of Continuation Application

Project: Healy Clean Coal Project

Participant: Alaska Industrial Development and Export Authority

Extension Duration (Months)/Reason:

- 18/Completion of Project Definition & Environmental Review.

Project: Blast Furnace Granulated Coal Injection System

Participant: Bethlehem Steel Corporation

Extension Duration (Months)/Reason:

- 1/Project Execution
- 7/Project Execution
- 9/Project Execution
- 6/Project Execution
- 2/Project Execution
- 6/Project Execution

Project: Tampa Electric Company Integrated Gasification Combined-Cycle Project

Participant: Tampa Electric Company

Extension Duration (Months)/Reason:

- 21/Novation, site change, technology change, capacity increase.

Project: PCFB Demonstration Project

Participant: DMEC-1 Limited Partnership

Extension Duration (Months)/Reason:

- 1/Post Award Reconciliation Due to Congressional Review Cycle.
- 6/To Change Project Site
- 1/Delay Due to Mid-West Floods
- 2/Delay Due to Mid-West Floods
- 1/Delay Due to Mid-West Floods
- 4/Delay Due to MidWest Power Co. Merger Forcing Reevaluation of Project
- 1/To Allow Submittal of Restructured Project

Project: ENCOAL Mild Coal Gasification Project

Participant: ENCOAL Corporation

Extension Duration (Months)/Reason:

- 1/To Finalize HQ Review/Approval of Extended Testing
- 24/Extended Test Operations to Enhance Commercialization Potential of Technology.

Project: Commercial Demonstration of the NOXSO SO₂/NO_x Removal Flue Gas Cleanup System

Participant: NOXSO Corporation

Extension Duration (Months)/Reason:

- 12/Project Definition
- 5/Project Definition
- 12/Project Definition

Project: Integrated Dry NO_x/SO₂ emissions Control System

Participant: Public Service Company of Colorado

Extension Duration (Months)/Reason:

- 2/Project Execution
- 12/Process Improvement Modification

CCT-IV Solicitation

Project: Pinon Pine IGCC Power Project

Participant: Sierra Pacific Power Company

Extension Duration (Months)/Reason:

- 6/Completion of NEPA Process
- 2/Completion of NEPA Process and Definitive Estimate

Project: Wabash River Coal Gasification Repowering Project

Participant: Wabash River Coal Gasification Repowering Project Joint Venture

Extension Duration (Months)/Reason:

- None

Project: Self-Scrubbing Coal: An Integrated Approach to Clean Air

Participant: Customs Coal International

Extension Duration (Months)/Reason:

- 3/Project Execution
- 2/Project Execution
- 1/Project Execution
- 1/Review of Continuation Application

Project: Milliken Clean Coal Technology Demonstration Project

Participant: New York State Electric & Gas Corporation

Extension Duration (Months)/Reason:

- None

Project: Micronized Coal Reburning Demonstration for NO_x Control on a 175 MWe Wall-Fired Unit

Participant: Tennessee Valley Authority

Extension Duration (Months)/Reason:

- None

Project: Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal

Participant: ThermoChem, Inc.

Extension Duration (Months)/Reason:

- 4/Project Definition
- 12/Project Definition at New Site and Complete Design Verification Tests.
- 3/Complete Continuation Application
- 5/Completion of Project Definition at 2nd New Site

CCT-V Solicitation:

Project: Warren Station EFCC Demonstration Project

Participant: Pennsylvania Electric Company

Extension Duration (Months)/Reason:

- 4/Project Definition

Project: Coal Diesel Combined-Cycle Project

Participant: Arthur D. Little, Inc.

Extension Duration (Months)/Reason:

- None

Project: Clean Energy Demonstration Project

Participant: Clean Energy Partners, L.P.

Extension Duration (Months)/Reason:

- None

Project: Four Rivers Energy Modernization Project

Participant: Four Rivers Energy Partners, L.P.

Extension Duration (Months)/Reason:

- None

Project: Clean Power From Integrated Coal/Ore Reduction

Participant: Centenor Energy Corporation

Extension Duration (Months)/Reason:

- None (A cooperative agreement to initiate this project has not yet been signed.)

LIABILITY

Question The Department's General Counsel recently wrote a legal opinion assessing the Department's legal exposure should Clean Coal projects be terminated for lack of funding. The opinion seems to indicate that the Department would not be required to reimburse project sponsors for any costs beyond those that the Department was expected to pay within the project's

current budget period. At the same time, the opinion's underlying message seems to be that should any further funds be rescinded from the Clean Coal program, the Department would like Congress to specify from which projects the rescinded funds are to be taken. What is your summation of the Department's legal opinion?

Answer. Under the Clean Coal Technology cooperative agreements, DOE may disapprove a continuation application on the basis of insufficiency of available appropriated funds. Disapproval of a continuation application in a particular project on that basis would limit DOE's liability to obligated funds through that current budget period. The Department would apply its discretion to determine how best to allocate the available appropriated funds, but Congressional guidance on the type of criteria to use in selecting projects for discontinuation due to insufficiency of appropriated funds would be useful. The source of rescinded funds (projects to be impacted) should be a decision made by the Department.

Question. If the Department was forced to terminate projects due to lack of funding, what general criteria would be used?

Answer. Assuming that DOE was required to discontinue some projects at the end of a budget period due to insufficiency of available appropriated funds, DOE would employ any criteria provided by Congress, or in the absence of such guidance, establish criteria that are consistent with those used in the original selection of projects, such as commercialization potential, technical merit, financial strength of the participants, and environmental performance. Every effort would be made to maximize the benefits of taxpayer investment to date and make the best use of remaining funds for the other projects.

FUTURE FEDERAL INVOLVEMENT

Question. The 1994 Completing the Mission report concludes that, "While the [Clean Coal] program has been successful at the demonstration stage, full commercial implementation may require some continued Government role." The report also states that "Even with clear potential benefits, some barriers to commercial acceptance of clean coal technologies will remain. Commercial acceptance of clean coal technologies will require a continued, although refocused, Government role."

These statements concern me. We have already invested some \$2.7 billion in the Clean Coal program, and it is fairly clear that no further appropriations are forthcoming.

Does the report's reference to a "continued Government role" mean additional funding? Is our investment to date in clean coal technology somehow wasted without additional Federal funding?

Answer. A continued Government role in commercialization of the Clean Coal technologies does not assume further funding on the scale that Congress appropriated for the demonstration program. In the May 1994 report, DOE recommended that it "analyze the merits of commercial incentives (e.g., financial, tax, buydown) as means for transferring Clean Coal Technology to

the commercial marketplace." This analysis is currently being performed and will be reported to Congress.

Question. What continued Government role does the Department envision? What additional value would be gained from that investment?

Answer. DOE will report to Congress on a range of incentives. This recommendation was included in the May 1994 report to Congress, "Clean Coal Technology Program: Completing the Mission."

ASSESSING THE PROGRAM

Question. In a variety of documents, the Department has hailed Clean Coal as one of the most successful programs of its kind.

On what basis does the Department make this assertion?

Answer. The Department has evolved a set of programmatic guidelines which has attracted wide industrial support in each of its five solicitations. The resulting 43 projects cover the full range of expected applications of new coal using technologies. Technologies from the earlier rounds will allow existing coal burning plants to operate under more stringent environmental standards. The technologies in the later rounds will demonstrate new ways to use coal, primarily for electric power production, which will allow the continued use of our largest domestic energy resource to meet future needs in a cost effective manner.

The roles of Government and industry have been clearly drawn from the beginning of the program. Government sets the broad program objectives, selects the projects which best meet this goal, and makes cost shared funding available for project execution. Industry selects the technologies to be demonstrated in a competitive solicitation and manages the project using best industrial expertise. This partnership has allowed both parties to do what they do best.

These programmatic goals have been accomplished while attracting the level of private sector cost sharing which few other Government programs have accomplished. With two dollars of private sector money for every dollar of Federal money, program funds have been leveraged to a very high degree. The result has been a wide range of technologies which would not have reached commercial state as quickly if the Government had not undertaken this program. The Government has assumed part of the development risk which has allowed the acceleration of the development cycle for these promising technologies.

The ultimate benefit of this program is the attaining of a cleaner environment while using domestic resources and keeping electricity affordable.

Although the program has not yet been completed, commercial sales have already been reported (Domestic and International) and some repayment of Federal investment has occurred. Half a billion sales of Direct sales from clean coal projects have been reported (with a commensurate number of jobs supported). Over 9 billion dollars of sales have been reported that have been assisted with information and data from the clean coal program and associated technology development. Several of the clean coal projects have received

industrial awards for innovation. Efficiency Environmental Performance, and a low cost of electricity that were not believed to be attainable 25 years ago are within reach.

Question. What standards should we use to assess the relative success of a federally-sponsored technology development program?

Answer. For demonstration programs, the easiest measure is commercial replication of the technologies which are successfully demonstrated. This can be a cruel criterion to use but it provides the clearest indication that a market exists for the development effort. An allied concept is the level of cost shared funds being used in the effort. Industry will only invest in those technologies which it feels have a market. Societal goals must be satisfied to warrant the expenditure of the funds necessary to run a major demonstration program. Cleaner environment, jobs, and the use of domestic resources have been the major objectives of the Clean Coal Program. Similar broad goals need to be identified for each program before specific criteria can be set to measure program success.

Question. There are 45 Clean Coal projects that are either "active" or have been completed.

How many represent technologies that have been commercialized successfully?

Answer. There are at least 13 projects that incorporate technologies that have been commercialized successfully. The completion of projects that demonstrate environmental control systems is much further along than demonstrations addressing any other market sector. For the most part these technologies were selected in the early rounds of the program. As more projects complete their operating phases and enter the commercialization phase, DOE anticipates that they will make valuable contributions in the marketplace.

Seven NO_x control technologies covering the full range of boiler types have concluded operations. Three of these systems have been adopted for commercial application by the demonstration project host utility. Also, the first commercial sale of low-NO_x cell burners has taken place.

With regard to SO₂ control technologies, there are a number of low capital cost SO₂ control options for older, smaller, boilers available as a result of the program. It seems likely there may be a significant export market for these technologies. Although the option preferred by utilities to meet Phase I of the Clean Air Act Amendments of 1990 has been fuel switching, there are a number of technology options available from the Clean Coal Technology Program to meet the more stringent Phase II SO₂ limits.

Question. Why so few?

Answer. The program has not yet reached the stage of maturity necessary to have a significantly greater number of commercial successes. The major portion of uncompleted projects are either in advanced electric power generation systems, coal processing for clean fuels, or industrial applications. Projects in these categories typically are large scale demonstrations that require longer schedules to complete design, construction and test operations for the

demonstration. Hence, most commercialization successes remain to be achieved in future years.

Question. In the Energy Policy Act of 1992, Congress directed the Department to establish procedures by which the Department could recoup federal investment in certain energy demonstration and commercialization projects. This provision is discussed in the Department's July, 1994 Lessons Learned report on the Clean Coal program.

Has the Department received money pursuant to any such recoupment agreements?

Answer. Yes, the Department has received money pursuant to recoupment agreements.

Question. If so, how much has been received? Does the Department have any estimates of recoupments that it expects to receive in future years?

Answer. As of March 31, 1995, a total of \$312,900 has been received. The cooperative agreements call for the Government to be repaid up to its total investment over a 20-year period. Therefore, we have no way of estimating the potential recoupment of funds in future years.

Question. Is recoupment a good measure of a program's success in terms of return on Federal investment? If not, why not?

Answer. It is one of several measures of the success of the program success. The repayment provisions for the Clean Coal program derive from revenues received by the technology owners from future domestic, commercial sales of their technologies. This does measure the impact of jobs related to these sales and the ensuing tax flow to the Treasury related both to these jobs and to equipment sales. International sales and continued dominance by U.S. companies in environmental technology is also not reflected in these repayment provisions. Even more difficult to quantify is the improved environment that follows the adoption of Clean Coal Technologies. In reduction of acid rain emissions, greenhouse gases, and air toxics, Clean Coal Technologies will lead to a cleaner environment while keeping the cost of electricity at affordable rates for consumers and industrial rate payers.

PROJECT AUDITS

Question. The March, 1993 GAO Report titled "Ways to Strengthen Controls Over Clean Coal Technology Projects Costs" found that once projects are underway, audits of costs incurred are "not performed in a timely manner to ensure that projects sponsors submitted only allowable costs for federal reimbursement."

What has the Department done to address this deficiency?

Answer. After the March 1993 report, the Department responded to GAO that incurred cost audits have been requested on all active Clean Coal projects, however, we recognize that many of the audits had not been completed. We have also sought alternatives to DCAA audits (other agency audits). This

situation is serious because the current audit information is essential in the project review process.

The Department took a number of actions after the report was issued including providing DCAA with the GAO report findings and immediately undertaking a program of audit follow up with DCAA to ensure that all requests for incurred cost audits had been received and assigned to a cognizant audit organization. This audit inventory was completed during the summer of 1993 and audit management programs are currently in place at METC and PETC to monitor the ongoing incurred cost audits on all Clean Coal projects.

We believe the Department has made progress through the actions of both the Energy Technology Center's and the cooperation of DCAA. However, problems still exist with the timeliness of audit activities. We plan to continue our efforts to monitor the audit status on all Clean Coal projects through an active dialogue with DCAA. Also we plan to enlist the assistance of the Office of the Inspector General (OIG) to request that the appropriate priority be given to these important projects. In discussions during the past year between FE and the OIG, plans were made to conduct a review of the Clean Coal program in regard to Financial Management responsibilities. These reviews are currently underway.

STRATEGIC PETROLEUM RESERVE

FY 1996 BUDGET REQUEST AND WEEKS ISLAND DECOMMISSIONING

Question. As you are well aware, the President's request of only \$25.7 million for the Strategic Petroleum Reserve puts the Committee in a very difficult position. If legislation authorizing the SPR Decommissioning Fund is not approved, we will find ourselves \$100 million short of what the Department indicates is necessary to operate the reserve in a sound fashion. In addition, you propose to use nearly all of the funds remaining in the Petroleum Account to finance reserve operations -- likely leaving us in an even worse position in FY 97.

Several weeks ago the Department submitted proposed legislation that would authorize the establishment of the SPR Decommissioning Fund. The legislation would authorize the sale of oil from the Strategic Petroleum Reserve for the purpose of funding the decommissioning of the Weeks Island site.

If the legislation authorizing the Decommissioning Fund is not approved and the Committee does not make up the \$100 million shortfall, what specific work will the Department defer or cancel in FY 96?

Answer. If the legislation is not approved and the Committee does not make up the shortfall, reductions affecting a number of important activities will have to be made in order to continue the critical activities associated with decommissioning the Weeks Island site. Since transfer of the Weeks Island inventory has been delayed by eight months from the schedule at the time of the submission of the FY 1996 budget, \$22 million of the original \$60 million in decommissioning costs will be deferred to FY 1997. In addition, the Reserve would reduce the number of employees associated with maintenance and operations by about 300, which would significantly increase the backlog of maintenance items. At least two sites would have to be taken off the 15 day drawdown readiness standard and converted to a 150-180 day readiness standard. Also, the Reserve necessarily would reduce the number of security guards by one-third. Life Extension projects under construction would be completed; all other Life Extension activity would stop until further funding is available.

Question. What would be the implications of these deferrals in terms of drawdown readiness, resource protection, health and safety, etc.?

Answer. Such a loss of budget resources to the Reserve would imply a substantial reduction in mission readiness and capability. Rather than being able to assure drawdown capability within 15 days notice, readiness would require 150 days notice. Security would be downgraded, causing the program to accept a higher level of security risk at all sites. A delay of life extension activities would result in deterioration and possible failure of major systems during drawdown, while increasing normal maintenance costs.

Question. The Secretary has emergency authority to draw down the Reserve. Is it the Department's opinion that in the absence of legislation explicitly authorizing the establishment of the "SPR Decommissioning Fund,"

the Secretary does not have sufficient emergency authority to draw down the Reserve?

Answer. The Department has authority to draw down and sell Strategic Petroleum Reserve oil under section 161 of the Energy Policy and Conservation Act, as amended, (42 U.S.C. 6241) only at the direction of the President under emergency authorities associated with the existence or threat of a severe energy supply interruption or as part of a test sale of up to five million barrels of oil. Other than the five million barrel test sale authority, the Department does not have authority to draw down the Reserve in the absence of an actual or anticipated severe energy supply interruption.

Question. Even if such emergency authority could be extracted from current law, proceeds from the sale would not be treated as spending offsets. Is this correct?

Answer. Under current law, funds equal to the proceeds from sales are appropriated to the SPR Petroleum Account, not to the Strategic Petroleum Reserve Account. These two accounts are maintained as separate accounts in the Interior and Related Agencies appropriations acts, and funds from one may be used as spending authority for the other only after an appropriation transfer is authorized. Therefore, the proceeds from an oil sale are not automatically treated as spending offsets at the SPR program level.

PETROLEUM ACCOUNT

Question. The Department has requested only \$25.7 million in new budget authority for SPR, to be augmented by \$100 million from the Decommissioning Fund and \$187 million from the Petroleum Account. If the Reserve is funded as proposed by the DOE, how much will remain in the Petroleum Account at the end of FY 1996?

Answer. If the Reserve is funded as proposed by the DOE, approximately \$23 million will remain in the SPR Petroleum Account at the end of FY 1996. This remaining balance is for standby terminalling contracts associated with drawdown readiness, that will cost approximately \$5 million per year through FY 2001.

Question. How much new budget authority do you estimate will be required in FY 1997, assuming the SPR Decommissioning fund is authorized? What if it is not authorized?

Answer. If the Decommissioning Fund is authorized, the SPR will require approximately \$242 million to continue the operations, maintenance, management, Life Extension, and Weeks Island Decommissioning programs. If it is not authorized, the Congress does not otherwise appropriate equivalent funds, and the program is not reduced, the requirement for FY 1997 will be greater by the \$100 million not provided for the FY 1996 program plus an amount to cover the increased costs caused by systems obsolescence that would result from deferring the planned Life Extension Program and scheduled maintenance activities.

Question. Does the Department have any idea how such an increase from FY 1996 might be funded?

Answer. The Department would be forced to further reduce spending on other activities or accept a lower level of Strategic Petroleum Reserve program capability in the near term and accelerating maintenance costs with the passage of time.

UNOBLIGATED, UNCOSTED BALANCES

Question. During the course of this year, the Committee will be taking a close look at the unobligated and uncosted balances of agencies under our jurisdiction. In cases where such balances and prior year carryovers are persistently high, agencies will be expected to offer a compelling justification or face funding reductions.

Could you provide for the record a breakdown of current unobligated, uncosted and unencumbered balances for the Strategic Petroleum Reserve for FY 1994 and FY 1995?

Answer. The Strategic Petroleum Reserve Account balances for FY 1994 and the projection of balances at the end of fiscal year 1995 are as follows (in millions of dollars):

	<u>FY 1994</u>	<u>FY 1995 (Projected)</u>
Unobligated Balances	\$ 20	\$ 23
Uncosted Balances	\$ 99	\$133
Unencumbered Balances	\$ 0	\$ 0

All Uncosted Balances are associated with encumbrances or approved work scope. All Unobligated Balances are associated with schedule slippage due to either technical or procurement causes. Procurement schedule slippages are usually the result of either award protests or non-responsive bids that require further action before a successful award can be made. The increase in uncosted balances at the end of FY 1995 is associated with contract obligations for large fixed price Life Extension Projects that would be completed in FY 1996.

The SPR Petroleum Account balances for FY 1994 and the projection of balances at the end of fiscal year 1995 are as follows (in millions of dollars):

	<u>FY 1994</u>	<u>FY 1995 (Projected)</u>
Unobligated Balances	\$ 330	\$ 208
Uncosted Balances	\$ 3	\$ 2
Unencumbered Balances	\$ 0	\$ 0

Outlays from the SPR Petroleum Account during FY 1994 and FY 1995 were limited by appropriations acts. Except for balances required to cover the costs of standby terminalling contracts, all remaining balances have been proposed for transfer in the President's FY 1996 budget.

Question. Excluding the Petroleum Account, would you identify for the record what prior year balances are being relied upon to operate the Reserve in FY 1996?

Answer. The FY 1996 budget request did not assume the use of any prior year unobligated balances from the Strategic Petroleum Reserve Account for operations. The funds associated with the SPR Petroleum Account transfer are part of the financing for SPR program requirements but are not considered prior year balances within the Strategic Petroleum Reserve Account. The FY 1996 budget request assumed the use of all uncostered balances as of the end of FY 1995; these balances are associated with approved work that is in process by the management and operating contractor as well as fixed price subcontracts the management and operating contractor has entered into on behalf of the Strategic Petroleum Reserve. In addition, there are some uncostered balances that are associated with fixed price projects and tasks, contracts for which have been placed directly by Strategic Petroleum Reserve management, and will be part of the ongoing program in FY 1996.

EXPANSION

Question. GAO has identified \$1.8 million that was appropriated to study potential expansion of the Strategic Petroleum Reserve. Half of this money remains unobligated and the other half is uncostered.

Has the Department requested relief from the provisions of law that require the expansion study? What is the status of that request?

Answer. The requirement for the expansion study will be addressed with the Congress during the Energy Policy and Conservation Act reauthorization process. Draft legislation has been prepared and is currently undergoing interagency review.

Question. Does the Department's FY 1996 request assume use of these funds for other purposes?

Answer. These funds were appropriated specifically for the purpose of planning for expansion of the Reserve, and the Department's FY 1996 Request does not assume the use of the expansion funds for any other purpose.

HOT AND GASSY OIL

Question. The Department is in the midst of a program to treat "hot and gassy" oil at several of the Reserve sites. Estimates of the cost of this program have risen from \$59 million to \$84 million.

Why has the Department's FY 1996 cost estimate risen so much?

Answer. In the initial estimate for gas removal, critical assumptions made by the cost estimators were that the oil and gas separators, compressors and gas/liquid extraction units could be fabricated from existing equipment readily available in a depressed oil services industry, and that the gas to be extracted from the oil would be non-toxic.

Since the initial estimate, further characterization of the gas content revealed requirements for mitigation of hydrogen sulfide, and more extensive remediation requirements than anticipated. Also, the amount of surplus equipment in the oil services sector has declined and, therefore, the cost of leased equipment for gas production has increased.

The Department conducted a second round of bidding for the degassing services, after the initial bids came in above acceptable prices. Although renewed bidding with less stringent specifications resulted in lower bids, the cost still exceeded the original government estimate.

FACILITY LEASING

Question. Last September, the Department solicited offers from the private sector for the leasing of the St. James Marine Terminal. I understand this facility costs \$8.5 million per year to maintain. What have been the results of the Department's solicitation?

Answer. Based on a number of industry's requests, the original submission date for lease offers was extended from November 18, 1994 to February 15, 1995. However, on February 15, 1995, the Strategic Petroleum Reserve did not receive any lease bids for the St. James terminal. Based on subsequent discussions with industry, it was learned that the major reasons why interested firms elected to not submit a bid were: (1) major concerns over the lease terms and conditions which increased the lessee liability and costs and (2) industry's prospects for adequate business revenues.

Question. Does the Department expect its maintenance costs for the St. James Terminal to decline in FY 1996 as a result of the solicitation?

Answer. The Department did not receive any responses to its solicitation to lease the St. James terminal, and, therefore, cannot pass any of the maintenance or operations costs of the facility to a lessee. If the Department were to lease the facility, operations and ordinary maintenance would be provided by the lessee. The Department would remain responsible for capital replacements and major maintenance.

Question. Is this factored into the FY 1996 budget request?

Answer. The possibility of leasing the St. James Terminal was not factored into the FY 1996 budget request. The Strategic Petroleum Reserve budget assumes that the program will continue to have the responsibility to operate and maintain St. James Terminal until a specific lease has been successfully executed.

Question. Are there any further leasing solicitations planned for FY 95 or FY 96?

Answer. After carefully reviewing industry's concerns, the Strategic Petroleum Reserve (SPR) is planning to restructure the lease solicitation, and tentatively to resolicit for leasing proposals for the St James Marine Terminal and the Bayou Choctaw crude oil pipeline during the first quarter of FY 1996. Planning is also underway for the potential leasing of the SPR pipeline from the Bryan Mound site to Texas City during FY 1996. Again, the FY 1996 budget assumes full responsibility for continued operations and maintenance of these facilities until and unless a lease arrangement is executed.

Leasing actions for the other SPR pipelines in the Capline and Texoma complexes have been placed in suspension during FY 1995 and 1996 due to

the expected operational need for these pipelines in the relocation of the Weeks Island oil inventory to the Big Hill storage site.

Question. The Department has proposed eliminating the legislative prohibition against the leasing of storage facilities for storage of crude oil. The budget justification states that the language is no longer needed because no petroleum purchases are proposed during FY 1996, and because the prohibition removes operational flexibility.

In what manner does the prohibition affect operational flexibility?

Answer. The Strategic Petroleum Reserve facilities have been designed and developed for long term structural integrity. Nevertheless, unexpected circumstances can disrupt facilities use. For example, the appearance of the Weeks Island sink hole and the requirement to remove and relocate the oil from the site was not anticipated. The fact that the Big Hill site has not yet been filled affords storage capacity for the Weeks Island oil. However, such storage space availability is only happenstance. If any type of operational or storage problem should occur for which the SPR does not have readily available empty capacity, the authority to lease existing private capacity might provide valuable flexibility.

LIFE EXTENSION PROGRAM

Question. The decommissioning of Weeks Island will reduce Reserve capacity from 750 million barrels to 680 million barrels. Since current inventory is roughly 592 million barrels --- and will fall to 585 million barrels under the Department's request --- we will be left with at least 88 million barrels in excess capacity. For the foreseeable future, it does not appear likely that funding will be available to utilize this remaining capacity.

As part of the Life Extension Program, the Department proposes to begin work at the Bayou Choctaw site in FY 1996. It is my understanding that Bayou Choctaw is relatively small, and is similar in construction to the Weeks Island site.

Is the Bayou Choctaw site prone to the same sort of problems that have affected the Weeks Island site?

Answer. Bayou Choctaw is not similar in construction to the Weeks Island site, and is not prone to the same problems affecting the Weeks Island site. The SPR's storage at Weeks Island is in a converted conventional room-and-pillar mine, while storage at Bayou Choctaw is in solution-mined caverns similar to the other SPR sites: Bryan Mound, West Hackberry and Big Hill. As a conventional mine, the Weeks Island storage is very shallow within the salt dome, and extends laterally versus vertically within the salt formation. This configuration greatly increases subsidence above the mine and the potential for stress fractures within the salt formation.

Question. If the oil stored in Bayou Choctaw were moved to other sites, and both Weeks Island and Bayou Choctaw were decommissioned, how much unused capacity would remain in the reserve system? How much would it cost

to acquire the oil to fill this remaining capacity (assuming a modest price projection)?

Answer. If both Bayou Choctaw and Weeks Island were decommissioned, the remaining three storage sites would have a capacity of 605 million barrels and an inventory of 592 million barrels, leaving 13 million barrels of unutilized capacity. The current delivered cost of light low sulfur crude oil to the SPR would be about \$21 per barrel, or about \$273 million for 13 million barrels of oil.

Question. How much would the Department save in maintenance costs over the projected life of the Bayou Choctaw facility, including the projected cost of the life extension program?

Answer. Based on a projection of costs to continue operating the Bayou Choctaw site from FY 1996 to FY 2020, a twenty five year period, the cumulative total cost in FY 1995 constant dollars is \$441.4 million. This cost includes site operations and maintenance, life extension program, and a proportionate share of the New Orleans overhead costs for program operations.

Question. Are there particular problems with this concept that I should be aware of?

Answer. There are no unique problems with the concept. However, decommissioning both Weeks Island and Bayou Choctaw will:

- o Decrease the overall drawdown capability of the Reserve from 3.9 to 3.4 million barrels per day
- o Impact current plans and costs for relocating some of the Weeks Island inventory to Bayou Choctaw;
- o Eliminate the potential to increase the Reserve's oil inventory in a timely manner should a requirement develop.

Question. Are there other, more logical arrangements that would reduce excess capacity in the reserve and reduce operational costs?

Answer. Decommissioning Bayou Choctaw is a logical option for reducing excess storage capacity while achieving significant savings in operations cost. The remaining SPR sites are too large to totally decommission, and partial site decommissioning would produce little to no cost savings. Another option would be to use the excess capacity to store oil for other countries that lack low cost strategic reserve storage capability. The second option would not reduce costs but might generate offsetting revenue and preserve the facility for potential future use.

ENERGY POLICY AND CONSERVATION ACT REAUTHORIZATION (EPCA)

Question. The Energy Policy and Conservation Act is the principal authorization for the reserve. Congress last year debated a comprehensive reauthorization bill, but would up passing a simple extension of the Act until June of 1996.

Has the Administration proposed a reauthorization bill in the 104th Congress? Has legislation been introduced?

Answer. The Administration is preparing a draft reauthorization for submittal to Congress in the near future. No reauthorization bill has as yet been introduced.

Question. Generally speaking, what kind of changes will the Administration propose? Will those changes reduce the operating cost of the Reserve? If so, by how much and in what functions?

Answer. The bill that the Administration plans to prepare will be very similar to the bill introduced in the 103rd Congress. Among other things, that bill extended authorization of the Strategic Petroleum Reserve and United States participation in the International Energy Agreement until 1999. It proposed to eliminate anachronisms relating to the Strategic Petroleum Reserve and to delete requirements for actions which have already been satisfied. It also modified the anti-trust defense for oil companies providing support to the International Energy Agency. The only changes which would affect operating costs are the deletion of requirements to submit quarterly Strategic Petroleum Reserve reports to Congress and make annual computations of Regional Petroleum Reserve eligibility.

Question. Will these changes reduce the operating cost of the Reserve? Is so, by how much and in what functions?

Answer. The reports are completely written by Federal employees and the savings would be equal to about \$17,000 worth of staff time. The recomputation requires approximately \$22,000 of Federal employee and contractor effort.

STAFFING

Question. I understand that the Inspector General is conducting an assessment of staffing levels at the Strategic Petroleum Reserve.

Is this assessment complete? What conclusions did the Inspector General reach?

Answer. The IG has completed its assessment and has issued its report, IG-0370, to the Department for comment. The Departmental Position is being prepared on the recommendations contained in the report.

The 5 recommendations of the IG are as follows:

1. "The Assistant Secretary for Fossil Energy direct that actions be taken to implement the staffing reductions described in Part II of this report for eight functional areas by improving performance levels through redesign of work processes, revisions in organizational operating policies and procedures, further automation of systems, and obtaining appropriate waivers from Departmental orders and other regulations."
2. "The Assistant Secretary for Fossil Energy implement a 3-year goal to reduce overcentralization and increase the span of control for Reserve Managers to an average of one manager for each 10 subordinates, and to

reduce total staffing levels by the number of supervisory positions so eliminated."

3. "The Assistant Secretary for Fossil Energy require further research and analysis of the potential long-term staffing reductions listed in Appendix D of the report to determine the specific number of positions that should be eliminated to improve efficiency, productivity, and operating costs."
4. "The Assistant Secretary for Fossil Energy provide contract incentives for the management and operating contractor and Federal managers to reduce staff and operating costs for the Reserve."
5. "The Assistant Secretary for Fossil Energy ensure that Reserve staffing requirements are evaluated on a periodic basis by using appropriate benchmarks, comparative statistics, and other performance measures from the private sector and/or other Departmental management and operating contractors."

The SPR currently is conducting an analysis of these recommendations and preparing comments for inclusion into the Departmental Position which is due June 7, 1995.

NAVAL PETROLEUM AND OIL SHALE RESERVES

GENERAL

Question. The FY 1996 budget request proposes a dramatic reduction in funding for the Naval Petroleum and Oil Shale Reserves. The request reflects the Administration's proposal to place the reserves in a "caretaker" status until they can be corporatized and sold by FY 1997.

Though I do not believe the Federal government belongs in the oil business, I want to be certain that if the reserves are sold, the Federal government receives adequate compensation. It is this concern that prompts many of my questions.

Parts of the Department's budget justification allude to corporatization and sale of all the petroleum and oil shale reserves, yet the only details provided refer to NPR-1 and the oil shale reserves. What does the Department propose for NPR-2 and NPR-3? Will these fields and/or the oil shale reserves be part of the government corporation prior to their ultimate disposition?

Answer. Legislation submitted to the Congress by DOE on May 4 would require the Department to prepare and implement a plan to sell the Government's interest in Naval Petroleum Numbered 1 and to transfer the remaining Reserves, except Oil Shale Reserve Numbered 2 in Utah, out of Federal ownership, management, or control, by sale lease, or other disposition. The legislation proposes that the Department's functions regarding Oil Shale Reserve Numbered 2 be transferred to the Department of the Interior and that certain parts of that property be studied for possible inclusion in the national wild and scenic view system. If the plan to privatize the Reserves is disapproved by the President or Congress, or the President determines that the conditions for privatization specified in the plan are not met the legislation would transfer management of all of the Reserves (again excluding Oil Shale Reserve Numbered 2) to a for-profit, wholly owned Government corporation.

Question. If all goes as planned, will any element of the current program be funded by the Department five years from now?

Answer. Privatization of the Naval Petroleum and Oil Shale Reserves is intended to eliminate any Federal role in the management of these properties except NOSR-2, which would be managed by DOI. Hence, once privatization actually occurs, it is anticipated that no further funding will be needed by DOE for this program. If the plan to privatize the Reserves is disapproved by the President or Congress, or the President determines that the conditions for privatization specified in the plan are not met the legislation would transfer management of the Reserves (excluding Oil Shale Reserve Numbered 2) to a for-profit, wholly owned Government corporation. This corporation would be self-funding from product sales revenues and would not require future appropriations, with the possible exception of some start-up funding to bridge the gap between the Federally-run program and the corporation.

Question. Have the basics of the Department's proposal changed any since submission of the budget request?

Answer. The FY 1996 budget request proposed that the Naval Petroleum and Oil Shale Reserves program be corporatized, followed by a privatization of the assets. This two-step privatization process has undergone significant modification based on interagency review and Congressional comments. In the legislation that was submitted to Congress on May 4, the first order of business will be to initiate an orderly and professional effort to privatize the Reserves, except for NOSR 2 at a price that represents fair value to the taxpayers. The Reserves would be corporatized only if efforts to privatize the Reserves fail.

GOVERNMENT CORPORATION

Question. According to the budget justification, the purpose of corporatizing the reserves is to maximize their value prior to sale. However, recent statements by the Department indicate that corporatization is actually designed as a fall back position should sale of the reserves not be approved.

If the reserves were corporatized and then sold one year later, what specifically would the government corporation do in a year's time that would increase the value of the field?

Answer. The Department is no longer proposing a two-step (corporatization, followed by sale) process. In the legislation that was submitted to Congress on May 4, the first order of business will be to initiate an orderly and professional effort to privatize the Reserves except for NOSR-2 at a price that represents fair value to the taxpayers. The Reserves would be corporatized only this effort fails.

Question. Are there administrative costs associated with corporatizing the field prior to sale? Have these costs been quantified?

Answer. The Department is no longer proposing a two-step (corporatization, followed by sale) process. Under the terms of the legislation submitted on May 4, the Reserves, other than NOSR-2, would be corporatized only if privatization did not occur. In that case, there would be some administrative costs associated with the formation of the corporation. We estimate that these start-up costs at \$3.5-\$5.0 million.

Question. Has the Department submitted legislation to corporatize the reserves?

Answer. On May 4, 1995, the Department submitted to Congress legislation to privatize the Naval Petroleum and Oil Shale Reserves except for NOSR-2. Under the terms of that legislation, the Reserves would be corporatized only if privatization did not occur.

Question. What has been the authorizing committees' informal reaction to the proposal?

Answer. The authorizing committees in both the House of Representatives and the Senate have expressed an interest in working with the President to privatize the Reserves at a price that represents a fair value to the Nation and the taxpayers. The House passed bill rejects corporatization and the Senate Armed Services Committee reported bill does not include corporatization.

"CARETAKER" BUDGET

Question. According to the budget justification, the purpose of corporatizing the reserves is to maximize their value prior to sale. However, recent statements by the Department indicate that corporatization is actually designed as a fall back position should sale of the reserves not be approved. Has the Department estimated how much revenue would be lost or deferred for each year the reserves exist in "caretaker" status? If so, how much?

Answer. The Department is submitting an amendment to the FY 1996 budget request to provide an additional \$49 million to fund facilities, development drilling and remedial projects at NPR-1. If approved by the Congress, these funds, plus available carryover funds from the program, will allow production at NPR-1 in FY 1996 to be maintained at approximately the same level as in FY 1995.

Question. Why is the Department able to estimate FY 1996 production from NPR-3, but not from NPR-1 and NPR-2?

Answer. The Department was not aware that there was any confusion regarding estimates of oil and gas production from the three Naval Petroleum Reserves for FY 1996. To resolve any uncertainty, following are production estimates for FY 1996 from the three Naval Petroleum Reserves: Naval Petroleum Reserve No. 1 (Elk Hills): 68,000 barrels of oil per day, 338 million cubic feet of natural gas per day (figures for NPR-1 represent production from the full field; the government share is about 78 percent); Naval Petroleum Reserve No. 2 (Buena Vista): 300 barrels of oil per day (government's royalty share from lease production); Naval Petroleum Reserve No. 3 (Teapot Dome): 2,262 barrels of oil per day.

EQUITY SHARE

Question. I understand the precise division of ownership of the Elk Hills field (NPR-1) has not been determined. Until these "equity shares" are determined in cooperation with Chevron, it seems impossible for the Department to sell its share of the field.

What obstacles prevent resolution of the equity share issue? How and when does the Department intend to resolve this issue?

Answer. The primary obstacle is language in the Naval Petroleum Reserve Production Act of 1976 and the Unit Plan Contract (between DOE and Chevron), which govern the operation of the Elk Hills field, that provide for periodic redetermination of equity in any of the four producing reservoirs at any time. The legislative package submitted by DOE on May 4 includes a provision specifically requiring equity to be fixed. Nothing in this legislation prevents a negotiated settlement of the equity issue by DOE and Chevron.

PROGRAM DIRECTION

Question. The FY 96 request includes \$6.6 million for Program Direction and at a staffing level of 76 FTEs. This staffing level is the same as FY 95,

while the figure for Program Direction is up slightly from FY 95 if carryover funding is factored in.

Why does the Department require the same amount of staff and roughly the same amount of money to manage a program that will receive less than half the money it received in FY 95?

Answer. First, the Department is submitting a budget amendment to the Congress which provides an additional \$50 million in funding to the Reserves. The amended budget is a 19 percent decrease from FY 1995. However, the amended budget, with the use of available carryover funds, will allow the Reserves to continue to operate and produce at approximately the same level as in FY 1995. Second, staffing will remain unchanged because the activities required to implement the program are unchanged regardless of the level of funding. This includes activities such as engineering, financial management, budgeting, environmental and safety compliance, procurement, etc. Reducing a program's budget does not eliminate the requirement or necessarily the level of staffing needed to accomplish these activities. Finally, it is anticipated that there will be additional activities, over and above normal program operations, required to accomplish the sale of the Reserves.

UNOBLIGATED BALANCES

Question. In reviewing the FY 96 request for the reserves, I have been frustrated in trying to account for the use of prior year funds, unobligated balances, uncosted balances, etc. The budget justification identifies only \$1.2 million in prior year funds to be used in FY 96 -- in Program Direction -- yet it is apparent that the Department is relying on prior year funds to make up for the shortfall in its 96 request.

The Department has stated that the minimum "safe" level of uncosted balances for the reserves is roughly \$24 million. At the end of FY 94, uncosted balances were over \$91 million. Why is it necessary to have \$24 million in uncosted balances for safe operation of the reserves? Why are actual uncosted balances so high?

Answer. The oil and gas fields managed by the NPOSR program are in operation 24 hours per day, 365 days per year. A certain level of uncosted balances is required at the end of each fiscal year to ensure funds are available to continue operations at the beginning of the next fiscal year and to provide a contingency against emergencies. An appropriation may be passed on October 1, but that does not mean the funds are immediately available for expenditure. After the funds are appropriated, there has to be an OMB apportionment, a DOE allotment, a procurement request prepared by NPOSR, a modification to the contract prepared, and the modification signed by both parties before the funds can be obligated and expended. This takes time and meanwhile the wells and facilities continue to produce and operate 24 hours a day regardless of the fiscal year. Carrying over a minimum level of uncosted balances at the beginning of the fiscal year to cover such items as salaries, utilities, supplies, etc. is, we believe, sound business practice. It is not prudent management to risk disrupting a consistent multi-million dollar revenue generating program by failing to provide a minimum working capital balance for operations. In

addition, NPOSr believes it is judicious management to retain some funds to cover emergencies such as a well blow-out or a gas plant failure (both of which have happened at NPR-1). These are operating oilfields and unforeseen events occur from time to time which cannot be predicted. Finally, some of the uncosted balance is associated with work in progress. There will always be ongoing projects which span fiscal years, and these projects have to be totally funded up front.

Uncosted balances accumulated due to underestimating the length of time required to complete projects, underestimating the time required for project approval, and cost underruns. NPOSr has recognized that a high level of uncosted balances was accumulated and has made a significant effort to reduce these balances. Uncosted balances were reduced by about \$25 million in FY 1994 and are planned to be reduced by about \$30 million per year in FY 1995 and FY 1996. This would reduce the uncosted balance level to about what the program considers the minimum level needed to continue operations.

Question. What will uncosted balances be at the end of FY 95?

Answer. The program estimates that by the end of FY 1995 uncosted balances will be reduced to approximately \$60 to \$65 million. It is planned that further reductions in uncosted balances will be accomplished in FY 1996.

Question. The GAO has identified at least \$30 million in uncosted balances that may be excess, or "unencumbered." Has the Department reviewed the GAO data? Does the Department agree with GAO's assessment? If not, why not?

Answer. NPOSr has reviewed the GAO data and does not agree with their assessment. First, GAO classifies \$19 million that is being held to finance FY 1996 as unencumbered and therefore excess. NPOSr, in developing the FY 1996 budget, identified the \$19 million as available to augment the FY 1996 budget, finance FY 1996 activities and reduce uncosted balances by the end of FY 1996. Since these funds are being held to finance FY 1996 work, they are naturally unencumbered at the mid-point of FY 1995. Approved work scope documentation cannot be prepared in FY 1995 for FY 1996 work. Eliminating these funds would, in effect, be cutting an already substantially reduced budget. Given that NPOSr returns several dollars in revenue for every dollar spent, the program questions whether this is a wise business decision. Second, GAO has stated that approved work scope balances are adequate to fund about \$9 million required for prefinancing. Approved work scope represents work that has been specifically identified, funded, and is at some stage of work-in-progress. NPOSr does not understand how the same funds can be used to finance different activities. This would result in eliminating or deferring approved work, which would affect production and revenues. Finally, GAO has identified about \$3 million at NPR-3 as unencumbered. This balance accumulated as a result of deferring development work due to low oil prices, which made the work uneconomical. NPR-3 is now getting significantly higher oil prices, and has planned a substantial drilling program to take advantage of the prices. Since NPR-3's FY 1995 budget was reduced 30 percent during the appropriation process, the FY 1995

budget now has to be supplemented by carryover funds to accomplish the planned development activities. If NPR-3's unobligated balances are rescinded as proposed, then the unencumbered funds will be required to finance the drilling.

Question. Of the \$30 million identified by GAO, \$19 million is from NPR-1 and NPR-2 funds that the Department claims are desperately needed for FY 96. If these funds are indeed uncOSTed and unencumbered but needed for FY 96, why were they not identified as such in the FY 96 budget justification?

Answer. With the late decision to submit a caretaker budget and the need to rewrite a large portion of the NPOSR budget, the use of uncOSTed balances was overshadowed by the caretaker budget and omitted. This was an oversight on the program's part. However, in both our original budget and the caretaker budget, cost estimates exceeded the budget by about \$20 million. Both of these estimates were provided to GAO. NPR-1 originally requested \$99 million for its Operations & Maintenance budget in FY 1996, with estimated costs of \$122 million. The excess of costs over budget was to be financed from uncOSTed balances. The original FY 1996 budget request identified that prior year funds were being used to reduce the budget request. Under the caretaker budget, both budget and costs were reduced by \$20 million by eliminating the remedial well workover program. Even on a caretaker budget of \$79 million, costs were estimated at \$101 million for NPR-1 Operations & Maintenance. Again, uncOSTed balances were planned to finance the difference.

Question. I raised this issue partly because we will soon be conferencing the second rescission bill. As you know, the House included a \$21 million rescission from the reserves while the Senate rescinded only \$11 million. The Senate included the smaller rescission in part because of the difficulties that the larger rescission could create in FY 96.

For our use in conferencing the rescission bill, would you provide for me as soon as possible a breakdown of current unobligated, uncOSTed, and unencumbered balances at the reserves?

Answer. As of April 30, 1995, the balances for the NPOSR program are as follows (\$ in millions):

	<u>Unobligated</u>	<u>UncOSTed</u>	<u>Unencumbered</u>
NPR-1	\$65.5	\$79.0	\$0.0
NPR-3	13.9	10.7	8.4
NOSR	0.2	8.6	0.0
Program Direction	5.5	0.9	0.0

Question. Would you identify explicitly what prior year balances are being relied upon to operate the reserves in FY 96?

Answer. For FY 1996, the following prior year uncOSTed balances are required to finance operations: NPR-1 Operations & Maintenance (\$19.0 million), NPR-1 Development Drilling (\$2.0 million), NPR-1 Development Facilities (\$10.0 million), NPR-3 (\$1.6 million); and miscellaneous contract

close-outs (\$2.0 million). In addition, \$1.8 million of unobligated balances are required to fund the Federal staff at NPR-1 in FY 1996.

STAFFING

Question. The Department recently announced a work force "right sizing" at NPR-1 at Elk Hills. The Department's press release indicated up to 230 contractor employees could be affected.

Will the profitability of the reserve be negatively impacted by this reduction? If not, what changes have been made in operations at Elk Hills that permit this reduction?

Answer. It is expected that reduced contractor staffing will not affect profitability. Operational changes which will allow for reduced contractor staffing include reducing justification documentation for projects, granting higher spending authority to the contractor, reducing reporting requirements, seeking exemptions from DOE Orders and Federal Acquisition Regulation and Department of Energy Acquisition Regulations, and out-sourcing services where economical.

Question. Once the reductions are made, will staffing levels at Elk Hills be competitive with similar oil and gas operations in the private sector? If not, why not?

Answer. NPOSER believes that the staffing levels will be competitive with private industry, given that Elk Hills is a government operation. Completion of "right-sizing" will reduce contractor staffing to just over 500 FTEs. This compares to the staffing level contained in the Chevron proposal of just over 400. NPOSER believes that the additional 100 FTEs are justified because (1) NPR-1 must meet requirements for government programs that the commercial sector does not have to meet; and (2) NPR-1 is a stand-alone operation that does not have access to the corporate-level support staff common throughout the commercial petroleum industry to reduce the requirements for on-site staffing. However, NPOSER will continue to review its management and operation of the field with the objective of additional efficiencies.

Question. Are any further reductions planned prior to corporatization of the reserves, provided corporatization takes place according to the Department's schedule?

Answer. The legislation that was submitted to Congress on May 4 proposes an orderly and professional effort, to privatize the Reserves at a price that represents fair value to the taxpayers. The Reserves would be corporatized only if efforts to privatize the Reserves fail. The Department will continue its efforts to identify ways to operate the Reserves in a more efficient manner during the time they remain under government management prior to privatization. It is possible that future initiatives could involve further operating contractor staff reductions.

Question. The Department's press release indicates that actions will be taken to ease the impact of the reduction on affected employees. Will this activity be funded from program funds?

Answer. Program funds will be used to provide a severance package and outplacement assistance for affected employees.

OIL SHALE RESERVES

Question. The Department has requested no money for management of the Naval Oil Shale Reserves -- reflecting the proposal to lease or sell the reserves. However, \$3.8 million will remain available for gas protection activities pursuant to P.L. 101 - 512.

If the oil shale reserves are not leased or sold by the beginning of FY 1996, what management activities will not be undertaken due to lack of funding? Are any of the activities that would be forgone critical to health and safety, compliance with environmental statutes, etc.?

Answer. Activities eliminated due to lack of funding include surface resource management, environmental compliance activities such as monitoring of the spent shale pile, and minor maintenance requirements. In addition, it is expected that an environmental impact statement and additional NEPA assessments may be required for the NOSR gas protection program as a result of new well spacing regulations. All of the environmental activities are critical to compliance with current statutes and regulations.

Question. How long could these activities be foregone before serious and perhaps costly problems would arise?

Answer. It is impossible to predict how long it would be before serious problems arose. The time frame could range from several months to many years. For example, the purpose of our environmental monitoring program is to track on a long-term basis a variety of parameters that provide information on potential environmental problems associated with the spent shale pile. In this manner we can respond quickly when problems arise while avoiding unnecessary expenditures on nonexistent problems.

Question. If the reserves are sold as planned, will the Department maintain any responsibility for surface management activities pursuant to past activities?

Answer. No, surface management activities will be the responsibility of the purchaser(s).

Question. Do revenues from gas protection activities at the oil shale reserves cover all the costs of such activities?

Answer. Public Law §101-512 stipulates that revenues from the gas protection program be used only for "further gas protection activity." Hence, these funds cannot be used for surface resource management, environmental compliance or maintenance.

Question. Will the Department be able to continue gas protection activities indefinitely with revenues from gas sales?

Answer. At the current rate of private development, it is estimated that revenues from gas sales will be sufficient to cover future gas protection requirements. However, Mesaverde well spacing has recently been reduced to 40 acres, which is expected to increase private development in the future. If the reduced well spacing significantly increases the rate of private development, then gas protection requirements will outstrip our ability to fund them with current revenues from gas sales.

Question. If not, how long can gas protection activities continue before significant Federal resources are lost?

Answer. It is difficult to predict how long the gas protection program can continue before resources are lost. This depends mostly on the rate of private development. In the past, private development was restricted to a large degree by well spacing requirements. Currently, private development has slowed due to low natural gas prices. With the now reduced well spacing requirements, private development should increase significantly when the natural gas market rises.

QUESTIONS SUBMITTED BY SENATOR ROBERT BYRD

MORGANTOWN ENERGY TECHNOLOGY CENTER

Question. What will be the effect of the proposed \$6.7 million reduction in program direction on operations at Morgantown? To what extent will Federal and contract personnel be affected?

Answer. As presented in the President's Budget for FY1996, Federal employee cost is fully funded. The area targeted for reduction is "Contract Services." If this reduction stands, a reduction of approximately 48% in on-site contract services supported by program direction would result in layoffs of about 130 to 150 contract personnel employed at the METC in West Virginia. Specific decisions as to which personnel would be affected would be made by the contractor based on work scope changes that would be decided by METC.

Question. How has the staffing configuration (Federal and contractor) changed at Bartlesville since the management and operating contract was put in place?

Answer. At the start of FY 1983, the Bartlesville facility was defederalized. The Department farmed-out the operation of the facility to the IIT Research Institute (IITRI) for operation under a cooperative agreement. The Department guaranteed a base budget of \$5 million per year in research tasks and required the new operator to acquire the remainder of the funds necessary to keep the facility open through marketing services to others. The Oil Program was small at that time and was being implemented by a small staff of federal employees at the Bartlesville Project Office (BPO). In FY 1990, the Department placed a priority on oil supply research and the expectations of significant growth in the program caused the Department to look at alternative ways to implement the increasing program without increasing the federal staff at BPO. It was determined that a management and operating (M&O) contract would be put in place to handle the additional workload. Three years later in December 1993, the M&O contractor took control of the operation of the Bartlesville facility. By then, the average contract workload of the federal project managers at BPO had risen to approximately 3 times that recommended by good contract administration practices. There were 24 FTE federal employees at BPO supported by 16 support service contractor personnel (non IITRI personnel). IITRI employed 163 personnel at the site in research activities. Under the cooperative agreement, IITRI employees could only perform in-house research and could not implement the Oil Program. The Oil Program budget had grown to \$74 million, almost 3 times what it was at the time the decision was made to operate the Bartlesville facility and implement the Oil Program utilizing an M&O contractor.

The M&O contractor performs on-site research as did IITRI. However, they perform the following additional work: 1) all support services, 2) implementation of significant assigned portions of the Oil Program through sub-contract, 3) the added load of operations under the full requirements of DOE Orders, 4) assistance in program planning, and 5) an increased level of in-house research. To accomplish the added work assigned under the M&O

contract, employment at the site has gone from 179 to 242 exclusive of BPO. The federal FTEs at BPO have decreased by 1, to a level of 23, making the overall personnel increase at the site 62 (a 30% increase), while experiencing a growth of approximately 300% in the program and adding the responsibility for operation of the facility under all DOE Orders.

Question. What controls are in place to limit such growth in the future? How do you justify such program expansion at a time when Federal employees are being reduced?

Answer. The Department does not consider the addition of 62 personnel at the Bartlesville site excessive in light of the major changes in the mode of operation, the additional duties performed by personnel at the site, and the 300% growth in the Oil Program. The M&O contract is an award fee contract that is designed under the Department's new guidelines for performance based contracts. The contractor's ability to operate in the most efficient manner possible is one of the criteria used to determine the award of fee. Additional fee is earned based on reductions in over-head costs.

The expansion in the Oil Program and the emplacement of the M&O contractor occurred before the current thrust to down-size the Department.

Question. Was such growth at Bartlesville contemplated when this contract was implemented? If so, how do you justify this contract as being in the best interest of the government?

Answer. In FY 1990, the Department placed a priority on oil supply research and the expectations of significant growth in the program caused the Department to look at alternative ways to implement the increasing program without increasing the federal staff at BPO. It was determined that a management and operating (M&O) contract would be put in place to handle the additional workload. The M&O contractor performs on-site research as did IITRI. However, they perform the following additional work: 1) all support services, 2) implementation of significant assigned portions of the Oil Program through sub-contract, 3) the added load of operations under the full requirements of DOE Orders, 4) assistance in program planning, and 5) an increased level of in-house research. To accomplish the added work assigned under the M&O contract, employment at the site has gone from 179 to 242 exclusive of BPO. The federal FTEs at BPO have decreased by 1, to a level of 23, making the overall personnel increase at the site 62 (a 30% increase), while experiencing a growth of approximately 300% in the program and adding the responsibility for operation of the facility under all DOE Orders.

Question. Why are you now proposing to fund actual management and operating contractor overhead activities out of the line-item designed to cover the cost of Federal employee program support? Do you do that for other contractors who have to compete for research and development work?

Answer. The line-item "designed to cover the cost of Federal employee program support" actually covers much more than is implied by the name. It is designed to cover the costs of program administration. The budget and reporting designation is AN. At Morgantown and Pittsburgh, the AN account

has historically included the cost of support service contractors and all other costs associated with the operation of the facilities. The AN account for Bartlesville has not historically included the cost of operating the facility since this responsibility was IITRI's, not DOE's. With the initiation of the M&O contract, the facility is once again the responsibility of the Department. The budget for FY 1994, the first year of the contract, was requested before we knew the timing of the placement of the M&O; therefore, in the first year of operation the research program funded this expense. In order to have all three of the FE research facility budgets consistent and to have the operating costs clearly stated and not buried in the research budget where they are more difficult to control, the budget for the operation of the Bartlesville facility was included in the AN line, the same as the FE facilities at Morgantown and Pittsburgh.

The Bartlesville facility is a DOE facility and as such does not compete for projects; neither do the centers at Morgantown and Pittsburgh.

Question. In the end, isn't what you are proposing an increase to the oil program of not only the \$5.1 million shown in the budget, but also the additional \$7.7 million going to the contractor?

Answer. The Oil Program budget was actually penalized in FY 95 by having to fund the \$8 million associated with program implementation from the research and development budget line, rather than have an allotment in the AN budget line as do the facilities the Department operates at Morgantown and Pittsburgh. The FY 96 budget corrects this inequity. The \$5.1 million increase in the Oil Program reflects the Administration's priority placed on oil supply research.

Question. Is it equitable for Bartlesville's management and operating contractor to compete with private sector organizations to conduct "work for others" when their "overhead" is being funded by program direction funding?

Answer. The requested funds are to cover the costs associated with the implementation of the Department's work at the facility. Any work performed at the facility under the "work for others" cannot result from a competition with private sector organizations and must be performed on a full recovery of cost basis including the associated over-head costs.

Question. What is the magnitude (dollar value) of the fossil energy work supervised by Morgantown as compared to Bartlesville and Pittsburgh?

Answer. The budget authorities and projected budgets from the Fossil Energy R&D budget for the two Energy Technology Centers and the Bartlesville Projects Office are as follows:

	(\$ in millions)	
	FY 1995 Budget Authority	FY 1996 President's Budget
METC	\$217	\$211
PETC	104	80
BPO	88	103

These figures do not include Clean Coal Technology funding, and, in METC's case, do not include budgets provided for implementation of Environmental Management activities.

Question. Is it not correct that Morgantown oversees program operations in total that are greater than the sum of the program operations at Pittsburgh and Bartlesville combined?

Answer. Yes. METC's Budget Authority for Fossil Energy R&D program operations in FY1995 is \$217 million, while the sum of Budget Authority for PETC and BPO is \$192 million.

METC also assists in reviewing, selecting, and technically managing a number of University Coal Research grants issued through PETC.

In addition, METC oversees Clean Coal Technology projects with a total multi-year contract value of approximately \$5.4 billion (\$1.7 billion DOE funds), while PETC oversees CCT projects with a total value of \$1.5 billion (\$0.6 billion DOE funds), and METC manages approximately \$57 million in FY1995 Budget Authority for DOE's Environmental Management organization. FY1995 total budget authority for Clean Coal Technology projects is approximately \$344 million for METC and \$157 million for PETC.

Question. Then why, given the magnitude of the program dollars overseen at the various facilities, is Morgantown proposed to decrease the most?

Answer. The Department has been conducting an extensive review of all its operations. All of the elements of FE are being asked to look at its operations and determine the most effective way in which to constrain costs, eliminate duplication, and improve efficiency. METC remains a crucial element of the FE organization and we expect they will continue to be so far the foreseeable future.

Question. How do you justify reducing Morgantown by 24 percent, and Pittsburgh by less than that (15 percent), when Pittsburgh's program budget decreases by 23 percent, and Morgantown's fossil research budget decreases by just 2.5 percent?

Answer. Each of the ETC's is being treated on a fair and equitable basis. We remain very sensitive to this issue and will ensure you that before a streamlining plan is implemented that the budgets, programs, and workload are consistent with the staffing and contractor support at the various FE sites.

Question. Conversely, why is Bartlesville contractor funding proposed to grow by 226 percent when the program grows by about 6 percent?

Answer. The BPO contractor support is not growing by 226 percent. The FY 1996 Budget for BPO includes for the first time full funding for contract M&O support in the Program Direction budget. Previously these funds were reflected in the oil program but to ensure consistency among the field sites it was felt that this way of presenting the budget is the clearest.

Question. In fact, based on the level of program responsibilities proposed

at Morgantown in FY 1995 and FY 1996, it would seem that the program direction at Morgantown would remain essentially level.

What would be the consequence for program direction at METC if funding were maintained at the FY 1995 level in FY 1996? Would the current level of services be maintained?

Answer. The FY1995 level (\$28,102K) represents a 5% (\$1,400K) reduction relative to a projected need of \$29,500K for FY1996. This projected need is based on maintaining the FY1995 level of services/support plus increases for, federal salary escalation, contract cost inflation and other similar cost increases across the board. If METC's FY1996 Program Direction budget was held to the FY1995 level of \$28,100K, reduction in the level of support services would have to occur in order to offset the required cost increases. It is anticipated that METC's primary (technical) mission would be indirectly affected but not significantly.

Question. Rather than increasing the size of the management and operating contract at Bartlesville, have you considered having some of the "excess capacity" at Pittsburgh handle some of these functions, rather than expanding the size of outside contracts?

Answer. Again, no increase in the size of the management and operating contract at Bartlesville is proposed.

Question. For at least the last 5 years now, program direction for the energy technology centers has been proposed for reduction, despite continued accomplishments and ongoing operations.

Why is a 5 percent increase in headquarters program direction proposed when reductions are proposed for Morgantown and Pittsburgh?

Answer. Two major items account for the need for an increase in program direction at Headquarters. In the salary and benefits area increased costs are projected based on the need for employee transfers, reductions, or buyouts as the Department takes steps to reduce layers of management and reduce the absolute numbers of supervisors in relation to the number of employees. Headquarters has a larger percentage of SES and GS-15 level employees and yet it is this group that is the most expensive to buyout, reduce, early retire or transfer. The second reason for increased funding is the requirements for system development and automation. Headquarters is devoting increased resources to LAN and workstation support to improve the overall efficiency of an increasingly smaller Headquarters staff.

Question. How do you view the proposed increase for headquarters as consistent with the Secretary's intention to shift greater responsibility and delegation of administrative functions to the field?

Answer. The initiatives underway are totally consistent with the shift of responsibility to the field. Headquarters is taking aggressive steps to reduce staffing especially at the higher grade levels and the remaining staff at Headquarters will take increasing advantage of computer and LAN capability to better utilize the talents and skills of the employee in our field organizations.

DOE "REALIGNMENT"

Question. One scenario, as I understand it, would be to close the Morgantown Energy Technology Center and transfer its in-house research capabilities to Pittsburgh and transfer the Morgantown facilities to West Virginia University. To my knowledge, the university has not endorsed, nor been consulted, in the financial feasibility of such an undertaking.

If the facilities were transferred to WVU, what plans would DOE have to continue financial support for the physical plant and the program operations conducted at METC?

Answer. If facilities were transferred to West Virginia University DOE would negotiate with the University for continued financial support for the facilities as well as any technical programs. The extent of the agreement would be subject to the availability of funds and subject to annual appropriations.

Question. If METC has the largest research budget in fossil energy (larger than that of Pittsburgh and Bartlesville combined), and is the most forward-thinking facility (as evidenced by how much of their program is supported in your budget), why would DOE propose to liquidate itself of this asset?

Answer. DOE has not proposed to liquidate itself of the Morgantown Energy Technology Center at this time. We have set out to create a government that works better and costs less.

As a result, one of the actions to achieve our goals is to consolidate the management and administrative functions at METC and PETC. This action will eliminate 90 FTEs. In addition, the Department will examine further opportunities for consolidation and cost savings among its three Fossil Energy Centers. Further discussions regarding these offices will be made later this year.

Question. What is the current estimated capital value of the physical plant at Morgantown? How does this compare to Pittsburgh and Bartlesville?

Answer. METC's estimated total property value is approximately \$86 million. It must be emphasized that this value is only an estimate and is based on the "acquisition cost" of the Center's land and facilities, which is the way the government accounts for its property -- i.e., neither market conditions nor depreciation are factored in. No independent appraisal of METC property value has been done.

In comparison, the physical assets of the Pittsburgh Energy Technology Center are estimated to be \$125 million, while the Bartlesville facility has an estimated value of \$5 million. Again, these estimates are calculated using "acquisition cost".

Question. When the Department of Energy terminated its operations in North Dakota and Wyoming, assurances were provided that funding would be provided for cooperative research. In the FY 1996 budget, however, such cooperative research programs are proposed for termination.

Why are you promoting new starts of unknown value (such as the

Advanced Computational Technology Initiative) when you can't afford to sustain your support of the known productive efforts in North Dakota and Wyoming?

Answer. The cooperative research at the Western Research Institute (WRI) and the University of North Dakota Energy and Environmental Research Center (UNDEERC) have not been proposed for termination. What the Department is proposing is that the research activities at these institutions not be singled out for special budget treatment, as the Department's policy has been to phase-out federal funding and allow these centers to show their R&D value by competing for available work. These institutions are a vital part of the FE program and we believe they are fully qualified to compete for FE research in our coal, oil, and gas programs. We are extremely confident that the Department will be continuing an active program at both institutions.

Question. Is this how you would propose to treat West Virginia University in the event the DOE presence in Morgantown were reduced significantly?

Answer. No, DOE would continue an active program at the facility.

Question. Based on the treatment of the UNDEERC and WRI, why should West Virginia have any faith in the Department of Energy keeping any commitments that might be considered for METC?

Answer. DOE has no desire to abandon its investments in people and facilities in West Virginia.

Question. Pursuant to the Committee's reprogramming guidelines, any reorganization, even if it were to have no dollar effect, must be submitted to the Committee for approval.

What are the Department's plans in this regard? When do you anticipate submitting a reprogramming to implement any realignment within the portions of DOE under the subcommittee's jurisdiction?

Answer. The Department's realignment plan should be to the Committee shortly. We look forward to the Committee's help and involvement in this plan to ensure that we properly address the needs of the American public. We appreciate all the help we have received from the Committee in the past and know we can work with the Committee to reach a position that meets the needs of the Department and the Congress. When a final realignment plan is completed a reprogramming notification will be forwarded to Congress.

CLEAN COAL TECHNOLOGY PROGRAM

Question. At this point in the program, what would you point to as the most significant accomplishments of the clean coal program?

Answer. The selection of 43 projects, over five solicitation rounds, that cover the range of future applications for the Nation's most abundant domestic energy natural resource. The technologies which are embodied in these projects will allow existing electric power facilities to continue to operate with greatly improved environmental performance and will allow future electric power needs to be met with entirely new ways of generation. These projects

will allow coal to remain a major domestic resource for meeting National energy needs at affordable costs while meeting increasingly stringent environmental standards.

The private sector has invested two dollars for every one that the Federal Government has contributed and agreed to repay the Government's investment for successful projects (some repayment has already begun). Clean Coal projects have received industrial awards for innovation. Although the Clean Coal Program is far from being completed, commercial sales are already being reported. Half a billion dollars in sales directly related to clean coal technologies and nine billion in sales that have been influenced by data from the Clean Coal Program and associated R&D have been made. Technology advances have been made (such as efficiency improvements and emissions reductions) that were not believed to be attainable by many just 20 years ago.

Question. Would you consider the clean coal technology program to be a model for future programs involving government and industry cooperation?

Answer. The Clean Coal Program embodies a number of features which have allowed Government and industry to jointly develop the next generation of coal using technologies. This successful model has attracted two dollars of non-Federal money for each dollar of Federal money which speaks well to this partnership concept. The key aspects of this program allow Government and industry to both do what they do best: Government to insure that broad societal goals are accomplished and industry to select the technologies with the best potential for future replication and strong day-to-day management skills for individual projects.

Question. If the program were terminated now, and the scheduled appropriations not forthcoming, what would you view as the consequences of such an action?

Answer. If no more funds were appropriated to the Clean Coal Program, 15 projects would be affected. The remainder of the 43 projects in the program would either have been completed by the end of this fiscal year or have scheduled decision points during FY95 which would obligate the remainder of the funds necessary to complete the project. This is because under the cooperative agreements, DOE can only deny a continuation application on the basis of lack of appropriated funds at the decision point at the end of a budget period. In such case, DOE still would be liable for its share of allowable costs to the end of the budget period.

These affected 15 projects will have a sunk cost by the end of FY 1995 of \$1.218 billion. Of this amount DOE has invested \$467 million and our private sector participants \$751 million. The cost to complete these projects is \$3.812 billion (\$1.089 billion DOE and \$3.812 billion private sector participants).

There were also thousands of jobs associated with the terminated project activity. This impact is not only in the construction jobs at the 15 sites but is represented more broadly by the locations where the engineering, equipment fabrication, and infrastructure development activities are taking place.

It is doubtful whether any of these projects would continue if the Government stopped its participation. Many of the projects achieved regulatory

approval on the basis that they represented the least cost option for the utility in question. The Government participation assumes the development risk which allows these first-of-s-kind facilities to be the low cost option. Without this Government funding, it is doubtful if the regulators would approve the utility assuming the added cost to cover the Government share.

The 15 projects in question fall mostly in the Advanced Power Systems component of the program. The projects which will be completed were selected in the early rounds of the program and are oriented toward allowing existing facilities to operate while improving environmental performance. Without the Advanced Power System technologies being successfully completed, there would be no credible U.S. option for new power facilities. DOE anticipates that there will be a new wave of baseload capacity additions needed in the next decade and coal is the fuel of choice by the utility industry. The current schedule for the Advanced Power Systems projects has them completing their operating periods just as the decisions regarding this new capacity are being made. If this option is precluded by the contemplated action, U.S. utilities will turn to foreign technology to meet this need. This would result in a loss of a large number of domestic jobs. At the moment, the U.S. has some of the leading technologies in the environmental and electric power industries. Not completing these projects would put this world leadership position in jeopardy. There would be a loss of export potential and future U.S. jobs if the technologies are not successfully completed as now planned.

Question. In the recently passed Defense supplemental and rescissions bill (P.L. 104-6), Congress enacted a \$200 million rescission of clean coal funds. The basis for this rescission was DOE's projection that a number of projects in the program would not proceed through to construction.

Since the budget was released in February, have any further decisions been reached with respect to the termination of projects?

Answer. Since the budget was released in February two projects in the Clean Coal Program ended. The participant and project title of the two projects are as follows:

PARTICIPANT	PROJECT TITLE
(1) Bethlehem Steel Corporation	Innovative Coke Oven Gas Cleaning System for Retrofit Applications
(2) TAMCO Power Partners	Toms Creek IGCC Demonstration Project

Question. How many more projects will reach critical "go/no go" decision points this year?

Answer. There are seven more projects that will reach critical "go/no go" decision points this fiscal year. The project title (and participant) of these projects are as follows:

PARTICIPANT	PROJECT TITLE
(1) York County Energy Partners, L.P.	York County Energy Partners Cogeneration Project
(2) ABB Combustion Engineering, Inc.	Combustion Engineering IGCC Repowering Project
(3) Wabash River Coal Gasification	Wabash River Coal Gasification

Repowering Project Joint Venture	Repowering Project
(4) Pennsylvania Electric Company	Warren Station Externally Fired Combined-Cycle Demonstration Project
(5) NOXSO Corporation	Commercial Demonstration of the NOXSO SO ₂ /NO _x Removal Flue Gas Cleanup System
(6) ThermoChem, Inc	Demonstration of Pulse Combustion in an Application for Steam Gasification of Coal
(7) Centerior Energy Corporation	Clean Power from Integrated Coal/Ore Reduction [COREX®]

Question. If decisions are not made regarding the future viability of some of these projects in question, what effect does this have on the financial prospects of the other projects still in the program?

Answer. The primary effect will be to tie-up funds that could be made available for necessary and justified cost overruns on other projects. Although Congress permitted limited Government cost sharing, no separate "overrun pool" was directly funded by appropriation money. Rather, these increases have been decided on a case-by-case basis and are only granted subject to the availability of funds. Such funds become available from (i) projects that were selected but failed to obtain an award, (ii) projects that were terminated before completion, or (iii) projects where the actual expenditure of funds was lower than anticipated at the time of award.

Question. Would DOE be subject to any penalties or costs under its cooperative agreements if it terminated projects that are experiencing problems in obtaining financial commitments, acceptable sites, and/or other problems?

Answer. The Department would terminate or discontinue projects only in cases where it has the legal authority to terminate or discontinue projects under the cooperative agreement. The cooperative agreements provide that DOE may terminate a project for cause or non-compliance at any time and may terminate a project by mutual agreement at any time. In such cases, DOE is only liable for the non-cancelable obligations incurred before the effective date of termination. Under the agreements, DOE may also decline to approve a continuation application for lack of appropriated funds at the end of a budget period. In that case, the Government's liability would be for our share of the allowable costs through that current budget period.

Thus, DOE could terminate cooperative agreements in the midst of a budget period for cause or non-compliance or it could disapprove a continuation application at the end of a budget period on the basis of insufficient available appropriated funds, but it could not otherwise terminate projects in the midst of a budget period without the agreement of the private sector participants.

Any termination or discontinuance may not stop a participant from bringing suit to recover its funding as a result of the Government's breaching its commitment in both soliciting participation and in signing the cooperative agreements. There may also be a contingent liability resulting from the clean up at those sites where construction would be halted.

Question. What would be the implications of terminating such projects to achieve budgetary savings?

Answer. Again, DOE would only terminate or discontinue projects where it has the legal authority to do so under the cooperative agreements. There may however be significant programmatic implications for taking such action. Most of the projects which would be affected incorporate technology from the advanced power generation systems. These technologies, which come from the later rounds of the program, are aimed at the next wave of baseload power generation which is expected in the next decade. These new uses of coal feature high efficiency with extremely good environmental performance. Many U.S. companies have counted on financing from the Clean Coal Technology program in their initial efforts to commercialize their products and systems. For some technologies, termination of funding for ongoing projects may have the effect of delaying market introduction of products and systems, and possibly cause U.S. utilities to turn to foreign suppliers. These delays also might reduce export potential and economic opportunities associated with export markets.

Question. How might the government facilitate efforts to commercialize environmental technologies in this era of budgetary constraint?

Answer. The government could facilitate efforts to commercialize environmental technologies through the continuation of an aggressive outreach program to inform potential markets of the capabilities of the new clean coal technologies. Encouraging the use of these technologies through the environmental regulatory process would also facilitate commercialization. DOE is also evaluating the range of incentives that the Government could adopt to facilitate the commercialization of these technologies. The results of this study will be reported to Congress.

Question. Do you believe that tax and regulatory reform policies are the appropriate places to seek solutions to assist the commercialization of environmental technologies?

Answer. The Department will report to Congress on its on-going study of incentives to facilitate the commercialization of Clean Coal Technologies. Tax and regulatory options as well as a number of financial and revenue neutral options are being evaluated.

ENVIRONMENTAL MANAGEMENT

Question. It is my understanding that METC has been very successful in winning competitions for contracts from the environmental management portion of the DOE budget (under the jurisdiction of the Energy and Water Development Subcommittee). To do this, METC has combined its expertise in coal utilization waste management, gas and oil reservoir flows, and project/business development and management in order to attract private sector contractors in DOE's environmental remediation technology development program. Morgantown has put particular emphasis on providing opportunity for small business in an arena that has been the almost exclusive province of DOE's national labs and their contractors.

To what extent have the Pittsburgh or Bartlesville offices been successful

in using acquired knowledge in order to compete for other contracts?

Answer. The Morgantown Energy Technology Center, the Pittsburgh Energy Technology Center, and the Bartlesville Project Office are not allowed by law to compete for environmental management contracts.

Question. Do you view such successful competitions as a testimonial to the successes of the fossil program?

Answer. Please see the previous response.

GENERAL BUDGET

Question. The budget proposes a 26 percent reduction in the coal program, while increasing natural gas significantly (25 percent).

What is the basis for reducing coal by such a margin?

Answer. The FY 1996 budget request reflects a balanced approach to our research and development portfolio. It responds to two primary energy challenges:

- (1) A growing dependence on other countries for liquid fuels.
- (2) The need for creating more efficient, affordable electric power.

Within a constrained budget, whereby choices had to be made to be consistent with these challenges, the Coal R&D budget request for FY 1996 consisting of Advanced Clean/Efficient Power Systems, Advanced Clean Fuels Research and Advanced Research and Technology Development was reduced from FY 1995 because of project completions, and reduced level of efforts for lower priority research or terminations.

Question. Are there specific contracts or projects coming to a logical conclusion, or will projects in process have to be terminated?

Answer. The following projects will be completed or terminated:

Advanced Clean/Efficient Power Systems

o High Efficiency Pressurized Fluidized Bed Combustion

- Completed Tidd Hot Gas Filter Tests
- Completed Foster Wheeler Integrated Subsystem tests for Second

Generation PFBC

o Advanced Pulverized Coal Fired Powerplant

- Completed Atmospheric Fluidized Bed activities

o Advanced Research and Environmental Technology

- No funds requested for Babcock and Wilcox Air Toxic Facility
- Eliminate PETC in-house R&D on copper-oxide technology development

Advanced Clean Fuels Research

o Coal Preparation

- Completed high efficiency process development

o Direct Liquefaction

- Terminate POC testing at HRI, Trenton, NJ

o Indirect Liquefaction

- Terminate POC testing at Air Products, LaPorte, TX

o System for CoProducts

- Terminate Kerr-McGee Mild Gasification Project

Question. What are the projects that will have to be canceled in order to achieve these proposed budget reductions?

Answer. The following projects identified above will be canceled:

- o Direct Liquefaction
 - Terminate POC testing at HRI
- o Indirect Liquefaction
 - Terminate POC testing at LaPorte, TX
- o System for CoProducts
 - Terminate Kerr-McGee Mild Gasification Project.

Question. A decrease of \$9 867 million is proposed as an offset against FY 1996 appropriations. These funds are proposed to come from the use of prior year balances and other adjustments.

What are the prior year projects from which these funds will be derived?

Answer. The prior year funding sources from which the offset of \$6 499 million will be derived are projects such as the Illinois Mild Gasification Project by approximately \$4.8 million, and the Planar Solid Oxide Fuel Cell activity by \$1.7 million. If these funds are rescinded they will not be available for offset purposes and other funding would need to be identified.

Question. If you cannot provide specifics, would this amount be applied as an across-the-board reduction to the entire fossil energy program?

Answer. Specific projects were identified in the previous answer, however, if those funds were not available, Fossil Energy would attempt to identify other projects and avoid an across-the-board reduction.

ADVANCED COMPUTATIONAL INITIATIVE (ACTI)

Question. In FY 1996, the budget proposes an increase of \$10.5 million for the advanced computational initiative.

What is the justification for proposing a 302 percent increase for this initiative?

Answer. The FE FY 96 combined gas and oil budget request for ACTI is approximately the same as the FY 95 request. The justification for this request is based on the industry response to the call for collaborative projects. Industry proposed 122 projects with an average total financial and non-financial participant contributions of 55%. The FY 95 budget, including Defense Programs (DP) and Energy Research (ER), allowed for first year funding for only 31 of these proposals. A large number of proposals with significant potential were not funded. The FY 96 budget request is at the level originally envisioned for the program.

Question. How will the additional funds be spent?

Answer. The FY 96 request will cover the second year of the proposals selected in FY 95 and approximately 13 additional projects could be initiated.

Question. How are the funds appropriated for this program in FY 1995 being spent?

Answer. These funds are being spent on 31 projects selected from 122 joint industry-university-national lab proposals. Selected projects cover a variety of computational projects ranging from seismic processing through reservoir characterization and simulation to information infrastructure.

Question. What was the basis for determining how to allocate the funds?

Answer. Proposals were evaluated by a 13 member Industry Review Panel (IRP) based on a set of criteria developed by the Department. The National Lab Partnership Office recommended a prioritized list based on the IRP evaluations. From this list, the DOE ACTI Management Team consisting of managers from the HQ Offices of DP, ER, FE and Policy, and field Offices at METC and Bartlesville made the selection of projects to be funded.

Question. What benefits do you expect to attain from this initiative?

Answer. ACTI products will assist in strengthening the domestic petroleum industry and help to maintain its worldwide leadership position - one that has been eroding the past few years. Results from this program will reduce technical and economic risk for the industry by demonstrating feasibility of new technology so that industry can confidently invest in "now-proven" technology. Some examples of specific benefits are: 1) improved 3-D seismic technology will allow finding vast new oil and gas resources in the Gulf of Mexico (this development requires state-of-the-art computer power, much of which is resident at the national labs, that was developed to service our national defense requirements); and 2) this vast computer power will allow field experiments to be performed numerically before large investments are expended to carry-out the experiments in the field.

Question. How many years of funding do you anticipate for this effort?

Answer. The projects placed in FY 95 are primarily 3 year efforts. ACTI, as a new program, will be closely watched and evaluated. As a government R&D-funded activity, ACTI must show a positive contribution above that which would have occurred without the program. We believe we have developed a program which will show results. Industry provides its input on the value of the projects by cost-participation at a minimum of 50 percent of each new project.

Question. How much is provided for this initiative in FYs 1995 and 1996 from programs not under the jurisdiction of this subcommittee?

Answer. Approximately \$30 million in each year.

Question. What would be the effect if this initiative were maintained at the FY 1995 level?

Answer. The projects initiated in FY 95 could be continued pending favorable IRP review. There would be no new starts unless existing projects fail to make significant progress and were terminated, freeing funds to start new projects.

Question. What would be the effect on DOE personnel if this initiative

were not funded?

Answer. There would be no DOE personnel at Bartlesville impacted if this initiative were not funded since proposal evaluations are conducted by industry and none of the research is conducted in-house.

Question. On contractor personnel?

Answer. The FE ACTI funds support both national laboratory personnel and researchers at 16 universities. Laboratory personnel would be affected, but the affect cannot be determined.

QUESTIONS FROM SENATOR DALE BUMPERS

FUEL CELLS

Question. I am interested in seeing DOE work with the private sector to accelerate the development of Proton Exchange Membrane (PEM) fuel cell power systems. I want to commend the Administration for recognizing the tremendous potential of PEM fuel cells for stationary power generation by requesting \$2 million in the Building Technologies budget for PEM fuel cell microgeneration. This funding, along with the \$8 million request for this technology in the Fossil Energy budget, will leverage significant investment by the private sector. Stationary PEM fuel cell power systems are one of the cleanest, most efficient and most versatile energy generation technologies in the world.

I understand that DOE has been doing some excellent work on integrating PEM fuel cells into transportation applications. I am committed to seeing this technology developed for stationary applications as well, especially given the strong likelihood that commercialization by the private sector of PEM stationary power systems. What are the Department's plans for accelerating the development of PEM fuel cells power systems for stationary applications?

Answer. The Department does not have plans within the Office of Fossil Energy to fund the development of PEM fuel cells for stationary applications and has not requested funds for this purpose. Initiating a development effort on PEM fuel cells for stationary applications is not considered consistent with current funding constraints and the funding levels needed to provide a reasonable chance for success. However, if the \$8 million funding requested for the Climate Change Action Plan to accelerate the field testing of advanced fuel cells is appropriated, the PEM fuel cell could be a candidate for field testing if private sector and other funding could advance PEM to a stage of development consistent with the program timetable. Other candidate advanced fuel cell technologies which are being developed, such as the molten carbonate and solid oxide, are expected to be ready to enter the market by the 2000 time frame.

The Department's request in FY 1996 for \$2 million, within the budget of the Office of Energy Efficiency and Renewable Energy, Office of Building Technologies, to apply fuel cell technologies to building equipment is independent of the \$8 million requested within the FY 1996 budget of the

Office of Fossil Energy for accelerating the field testing of advanced fuel cells. This latter request is with the intent to help realize the goals of reduction of greenhouse gas emissions (through accelerated application of higher efficiency fuel cell power generation and cogeneration) in accordance with the President's Climate Change Action Plan. The funding is not intended to be restricted to a specific fuel cell technology.

Question. DOE has commissioned studies that show clearly that the potential global market for stationary PEM fuel cell power systems will be robust, but that other nations are working aggressively in government-industry partnership to beat the U.S. in the race to develop this technology. Which nations are aggressively pursuing PEM fuel cell technologies, and how important do you believe it is that the U.S. maintain a lead in this effort?

Answer. PEM fuel cells are being developed aggressively in Canada, and several European countries including Germany, and Italy. A number of other countries also have research programs on PEM fuel cells. Maintaining a technology lead is considered important since the first developers to the market with good products will likely establish dominant positions which later developers may have difficulty in overcoming.

Question. DOE has also requested \$8 million for accelerated demonstrations of advanced fuel cells in the Fossil Energy budget. It is my understanding that it is the Department's intention that Fossil Energy work with Energy Efficiency in accelerating the development of stationary PEM fuel cell systems. Can you elaborate on these plans?

Answer. The Office of Fossil Energy and the Office of Energy Efficiency and Renewable Energy closely coordinate their fuel cell programs. Development of fuel cells for transportation applications has been directed by the Office of Energy Efficiency and Renewable Energy, and development for stationary applications has been directed by the Office of Fossil Energy. The \$8 million referred to in this question is the same \$8 million referred to in Question 1, above, for the acceleration of advanced fuel cells within the Climate Change Action Plan and has not been restricted to any specific technology or developer.

As also mentioned in a previous question, the Office of Energy Efficiency and Renewable Energy, Office of Building Technology has requested FY 1996 funding of \$2 million to initiate a program for application of fuel cells to buildings.

CONVERSION OF COAL TO ETHANOL

Question. It is my understanding that coal can be converted to ethanol through the use of a combined gasification/fermentation process. Please describe the status of DOE's research on this project.

Answer. Bioengineering Resources, Inc. a small business located in Fayetteville, Arkansas, has been developing a process for the direct biocatalytic conversion of synthesis gas (H_2 and CO) to ethanol. Since synthesis gas can be

produced from a wide variety of sources including coal, petroleum, natural gas and biomass, the successful development of this technology could find widespread commercial use. While the research is still at an early stage and is high risk, results to-date have indicated substantial promise for an economically viable process.

This research had been funded under the Fossil Energy coal program in the clean fuels Advanced Research and Environmental Technology subprogram. However, funding has been discontinued in FY 1995 due to reductions in appropriations. It was also the subject of a Cooperative Research and Development Agreement with the Oak Ridge National Laboratory, funded by the Bioprocessing of Coal subprogram of the Advanced Research and Technology Development program. This portion of the collaborative research was reduced in FY 1995 and is planned for termination in the FY 1996 Budget Request.

SUBCOMMITTEE RECESS

Senator BENNETT. There being no further business, the committee will stand in recess until 9 a.m., Tuesday, May 2, when we will hear testimony from the U.S. Forest Service.

[Whereupon, at 10:47 a.m., Thursday, April 27, the subcommittee was recessed, to reconvene at 9 a.m., Tuesday, May 2.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

TUESDAY, MAY 2, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 9:21 a.m., in room SD-138, Dirksen Senate Office Building, Hon. Slade Gorton (chairman) presiding.

Present: Senators Gorton, Stevens, Hatfield, Burns, Bennett, Leahy, and Bumpers.

DEPARTMENT OF AGRICULTURE

FOREST SERVICE

STATEMENT OF JIM LYONS, UNDER SECRETARY, FOREST SERVICE

ACCOMPANIED BY:

JACK WARD THOMAS, FOREST SERVICE CHIEF

GRAY REYNOLDS, DEPUTY CHIEF, NATIONAL FOREST SYSTEM

DAVE UNGER, ASSOCIATE CHIEF

JOAN COMANOR, DEPUTY CHIEF

BUDGET REQUEST

Senator GORTON. This subcommittee hearing will come to order. I want to apologize to my colleagues here and to the panel for having had two meetings at 9 a.m., at the same time. Yours will be the one to which I will stay as long as I possibly can.

Obviously, the Forest Service is one of the most significant of all of the responsibilities of the Subcommittee on the Interior in this appropriations process. It manages huge amounts of our public lands in almost every State in the United States.

It is in a process of transition, as is the case with so many other of the agencies of the Government, a complete reorganization dealing with the dramatic changes which are taking place in the management of our forests, and obviously of great interest to the chairman of this subcommittee, and I thank all of the members of the subcommittee who have chosen it, because of their interest in the Forest Service and the management responsibilities that it undertakes.

Again, as I listen to each of you, I need you to reflect very carefully on how you are going to deal with this reinvention or reorga-

nization, given the near certainty that you will have to do it next year with less money than you had this year.

I strongly suspect that the budget resolution that will be before the Senate soon is going to result in significant reductions in the amount of money allocated to this subcommittee for all of its myriad of responsibilities.

I will need your help and guidance with respect to what your priorities are in very, very difficult topics.

With those opening remarks, Senator Leahy, do you have anything that you would like to say to start us out.

OPENING REMARKS OF SENATOR PATRICK J. LEAHY

Senator LEAHY. Thank you, Mr. Chairman. I, too, am glad to see them here.

As you know, you and I have worked in forest legacy for a number of years. I will have questions when we come to that point on the forest legacy, its funding, and ways of going forward with it.

I will have some on the Green Mountain National Forest, but I think that we have seen some great success with forest legacy, but I would hope that we would be able to continue building on those successes.

Again, I compliment you on the work you have done on that, and I think that we can look forward to more years of success.

Senator GORTON. Senator Burns.

PREPARED STATEMENT OF SENATOR CONRAD BURNS

Senator BURNS. I have no statement. I will just ask that my prepared statement be made a part of the record. I think with the hour, I think we ought to begin with the witnesses.

Senator GORTON. It will be included as part of the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR CONRAD BURNS

Thank you, Chief for coming up here, again, to discuss your appropriations for the 1996 fiscal year.

As you know well, the people of my State depend on the national forests for the raw material that run much of the economy of the West. These forests are the source of timber, livestock forage, and minerals; as well as water and recreation.

I know the management of these lands is not cheap. I intend to work with this committee to see that you get the resources you need to properly manage these lands. However, Chief, I intend to see that the funds appropriated to your agency are spent on the ground to produce real results.

I'm not talking about more assessments, more plans, strategy, or whatever the language of the day is. I'm talking about doing the real work of forest management, selling timber, providing recreational opportunities, improving wildlife habitat, and the other traditional products the Forest Service used to produce, but now seems unable—or unwilling—to produce.

The days of paralysis by analysis have got to end.

I know that the law provides that certain levels of analysis be done to comply with NEPA. But I don't believe that NEPA requires EIS's at every level from regional assessments down to site specific projects. If it does, we are going to change the law.

NEPA analysis on every livestock lease seems to me to be excessive. There has to be a better, more efficient way. I am more than a little agitated that livestock operators have come close to being put off the range, because the Forest Service has not done what it said it would.

I expect that you will take advantage of the leeway this committee is trying to give you through the rescission bill to complete whatever level of NEPA is needed,

but I expect that you will look for the most efficient way to do this—without robbing funds from other programs.

I also believe that part of the problem of not getting work accomplished on the ground is the bloated overhead in the Forest Service. I know that you have been working on a plan to reduce the number of people you have working in Washington and at the other levels above the ranger districts. We need to give you time to implement your plan.

But, we will be watching. We need people on the ground—not in the office.

I'm a little frustrated at the lack of productive output from your agency. But I know you share many of my frustrations.

Thanks again for coming, Jack. And, thank you Mr. Chairman for my time.

SUMMARY STATEMENT OF UNDER SECRETARY JIM LYONS

Senator GORTON. Under Secretary Lyons.

Mr. LYONS. Thank you very much, Mr. Chairman. I appreciate this opportunity to appear before you this morning. I want to thank you for setting the stage for this hearing by emphasizing transition, which is surely impacting both the agencies I work with, and the Department of Agriculture.

I would like to emphasize three things in my opening statement. Since you have my written statement, I will not bother to summarize that.

Senator GORTON. It will be included in the record.

Mr. LYONS. Thank you, sir. Those three elements are: program balance, the focus of the Forest Service—renewed focus on forest health and ecosystem management—and then the need for responsible leadership in managing this transition from the current organization we have to an organization that is prepared to deal with the challenges we face down the road.

First, with regard to program balance—as you know, Mr. Chairman, the Forest Service's programs are organized around three important elements: research, the State and private forestry program, and the activities that support management of the National Forest System.

In the past, when we faced tight budget times, we have seen proposals that would eliminate or mortally wound, if you will, one element of those programs over another.

We think it is critically important to maintain a balance in our program, balanced funding and support for research, State and private programs, as well as the activities in the National Forest System, because they are critically important elements, tools, if you will, to meet the challenges in management that we are going to face down the road.

We know that the challenges to improving and managing for forest health are critical elements of what we are going to be doing in the National Forest System. Of course, you have taken a very active role, trying to promote some activities related to forest health.

We have seen dramatic increases in the demand for recreation and challenges to managing our public rangelands, all of which are going to require additional investments. We have also seen a shift in demand for timber from public lands over to private lands.

And we have an important obligation, I believe, in working in cooperation with the Nation's State foresters to provide management guidance and assistance to private nonindustrial landowners, to ensure that they can meet the opportunities that befall them for the

production of timber from privately owned industrial forest lands in a responsible way.

Another important element of that program, of course, is the fire, insect, and disease protection activities that we are engaged in. Of course, we saw the value of our fire efforts under State and private forestry last year in Washington State, and the important role that we can play there.

But the underpinning for all our management activities, certainly, is the research program. We continue to attempt to maintain places where we can make investments and research programs, that we hope will help us do a better job of providing guidance and management of both public and private lands, and ensure that that management is based on a sound understanding of the science of ecosystem management as well as the complexities of the ecosystem that we are entrusted to manage.

A fourth element I do not want to leave off, which gets some attention, is the international forestry program, which was actually authorized formally by the Congress, I believe, back in 1990.

The Forest Service is the world leader in conservation, and I think we have done an admirable job in trying to provide guidance and assistance to foreign governments in aiding them in understanding how to manage their resources in a responsible and sustainable way. It is a small program, but it is a vitally important component of what we do.

The second element I want to focus on are issues related to forest health. Our role, I believe our mission in the Forest Service, is to ensure that we can continue to provide, on a sustainable basis, all the goods and services that come from both public and private forest lands across this Nation.

Now, we have engaged, Jack and I, in an effort to renew our focus on protecting forest ecosystems and managing entire ecosystems by developing the data base and the understanding that is necessary to do so in a cost-efficient way, but also in a scientifically sound way, and as a result, the budget reflects investments in ecosystems assessments and regionwide assessments, such as the work that is going on right now in Walla Walla, WA.

This information is critically important as an underpinning for our management direction and focus. We believe through work to restore watersheds in other areas that have been impacted by perhaps excessive management activity in the past, as well as to operate in a judicious manner in other areas, we can continue to sustain the productivity of our forests—the timber, range, water, wildlife, and recreation resources from those forests—in perpetuity, but that requires an investment and some faith in the Forest Service's capability to do that.

The third element I want to focus on just briefly, since I know it is an interest of yours, is the issue of forest health and salvage.

We, too, are committed to addressing issues associated with the salvage of dead and dying timber in the National Forest System, but as you know from discussions we have had, Jack and I see this as one component of a larger forest health initiative.

We are pleased to see the focus on forest health, but we do not want the Congress or this committee to be led to believe that in-

vestments and salvage alone are necessary to restore balance and maintain the health of forest ecosystems across the country.

Equally important are investments in thinning range stands, in watershed restoration, in building roads, and in other management activities that ensure the sustainability of the resources in those areas for some time to come.

PREPARED STATEMENT

We look forward to working with you, Mr. Chairman, both as you work on the rescission package that you are now in conference on, as well as in the development of the fiscal year 1996 budget, to ensure that we can continue to maintain a balanced program, so that we can meet the challenges of forest management on both public and private lands, and in the initial arena that we will face down the road.

Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF JAMES R. LYONS

Mr. Chairman and members of the committee: I am pleased to appear before this Committee to discuss the President's fiscal year 1996 Budget for the Forest Service.

When Chief Thomas appeared before you nearly a year ago to discuss the fiscal year 1995 budget for the Forest Service, he stated our commitment to providing leadership and bringing about needed change in the Agency. Not change merely for the sake of change, but rather change to improve the efficiency and effectiveness of a proud organization, and further the ability of the Forest Service to provide nationwide leadership in conservation and land stewardship.

Over the past year, the Forest Service has made considerable progress in charting a course and starting down the path of change. The Agency has done this in the face of great challenges such as a declining budget, a 1994 fire season of historic proportions, increasing public demands for goods and services from the National Forests, and increased demands for scientific information. Much more remains to be done, and Chief Thomas and I are committed to doing our utmost to carry out our responsibilities to serve the American people.

LONG-TERM STRATEGIC DIRECTION

The Forest Service manages the 191.6 million acre National Forest System for many purposes; carries out a comprehensive forest research program; provides cooperative assistance to States, communities, and private forest landowners; and conducts international forestry activities in cooperation with other countries. In carrying out this mission, the Forest Service develops long-term strategic direction as required by the Forest and Rangeland Renewable Resources Planning Act (RPA).

A document published in October 1994, "The Forest Service Ethics and Course to the Future," contains the key points of the Agency's long-term strategic plan, and helps to focus Agency priorities, including budget priorities. The key elements of the "Course to the Future" are:

- Protecting ecosystems
- Restoring deteriorated ecosystems
- Providing multiple benefits for people within the capabilities of ecosystems
- Ensuring organizational effectiveness

The "Course to the Future" is an integrated plan designed to cut across the traditional functional programs of the agency; similarly, the elements and actions to be undertaken in the "Course to the Future" are integrated and woven through all Forest Service programs.

REINVENTION OF THE FOREST SERVICE

The Forest Service understands America's desire for deficit reduction and streamlined government and is doing its part to accomplish this. On December 6, 1994, the Forest Service published and disseminated a comprehensive report to "reinvent" the Forest Service, *Reinvention of the Forest Service: The Changes Begin*. The overriding objectives are to move resources—people, money, and equipment—to the field, and to continue providing and improving quality service at lower cost.

The Department's Reorganization Act, which was approved by the President on October 13, 1994, requires the Secretary to submit a report to the Congress on the reorganization of the Forest Service by March 31, 1995. As you know, Secretary Glickman was confirmed by the Senate on March 30, 1995. During his confirmation process, as well as in correspondence and conversations with Members of Congress, Secretary Glickman has indicated a strong interest in the reinvention of the Forest Service. He is going to review the report and take appropriate action after he has completed that review.

BUDGET REALITY

The Forest Service has fewer dollars to meet increasing demands. The Agency's total budget is declining in nominal and real terms. Between fiscal year 1992 and fiscal year 1995, the Forest Service budget declined by 3 percent in nominal terms and 10 percent when the effects of inflation are considered (i.e., "real" dollars). The fiscal year 1996 proposal would continue the downward trend in real terms.

Forest Service staffing is also on a downward trend. The agency has experienced a decrease in staff actually used of about 3,600 FTEs between fiscal year 1992 and fiscal year 1994. Staffing will decrease by another 3,100 FTEs by fiscal year 1999. These staffing decreases are occurring at all levels of the organization. The Washington Office will bear the largest percentage share of staff reductions. However, because the WO has only 2 percent of the total work force, the majority of work force reductions are still in the field.

A consequence of these budget trends is that the Forest Service has fewer dollars to meet increasing demands. There is increasing pressure on the budget to do more. Some examples of program areas experiencing pressure:

1. The recreation program has a large—more than \$1 billion—infrastructure backlog in recreation facilities, trails maintenance and reconstruction, and recreation related roads and bridges. This backlog is continuing to grow. At the same time, recreation use on National Forests continues to increase rapidly.
2. Sound scientific information is becoming an ever more crucial ingredient in policy decisions. There is an urgent need for large-scale ecosystem studies, more comprehensive inventory and monitoring programs, and basic ecosystem knowledge for solving forest health problems.
3. There is increasing pressure on private lands to satisfy a greater share of the Nation's timber demand. The 1993 update of the RPA Assessment of the Forest and Rangeland Situation in the United States reports that softwood growing stock removals exceed growth on forest industry lands in all regions and for nonindustrial private lands in the South.

BUDGET PRIORITIES

The Forest Service is facing this budget situation primarily by shifting dollars and people to address the highest priorities.

Initiatives in the fiscal year 1996 budget

The fiscal year 1996 budget supports several high priority initiatives that strive for improved productivity and efficiency, reduction of the Federal deficit, increased community service, and a balancing of environmental and economic concerns of the country. These initiatives are:

- National Performance Review, Agency Reinvention, Streamlining: streamlining actions will continue in fiscal year 1996.
- Forest Health: the budget contains funding to implement projects restoring forest ecosystems throughout the Nation, primarily in western States.
- President's Forest Plan for the Pacific Northwest: the goal of this plan is to balance long-term economic and environmental health in the Pacific Northwest and Northern California region. fiscal year 1996 funding for the Forest Plan is proposed at \$107.4 million, an increase of \$12.4 million over fiscal year 1995.
- President's Climate Change Action Plan: this plan is the United States strategic plan to combat the long-term problem of global climate change. Funding has been included in the fiscal year 1996 budget to continue the trend of reducing the emission of greenhouse gases.
- AmeriCorps Program: The fiscal year 1996 budget contains funding to support the growth and development of this program. A \$10 million program of 550–600 young people accomplishing natural resource work is planned in fiscal year 1996.
- Columbia River Basin Ecoregion Assessment: The fiscal year 1996 budget will complete the effort to generate scientific information that provides a foundation for future decisions in the Columbia River Basin.

—Range Restoration and Management: a funding increase for range restoration and management is included in the fiscal year 1996 budget. This initiative will increase efforts to protect and restore the Nation's rangeland and support completing the required environmental analyses and reissuance of the large number of grazing permits that are expiring.

Appropriation highlights

I will now describe some of the highlights of actions funded in fiscal year 1996 which support the achievement of the Agency's mission and long-term strategic direction.

NATIONAL FOREST SYSTEM

The goal of the National Forest System (NFS) program, guided by the principles of ecosystem management, is to provide for the protection, management and utilization of approximately 191.6 million acres of NFS lands located in 44 States, Puerto Rico and the Virgin Islands.

The fiscal year 1996 budget for the NFS is \$1.35 billion, an increase of \$7 million over the 1995 Appropriations. Some significant changes from 1995 have been necessary to meet critical priorities:

Wildlife and fisheries habitat management is funded at \$99.8 million, an increase of \$6.5 million over the 1995 Appropriation. The increase will support improved management of currently listed threatened & endangered species, and help to prevent the need for listing future species by focusing efforts on imperiled species. Inland fish habitat management funding is also increased to support habitat restoration at the watershed level and increase the capability to meet growing public demand for inland fish resources.

Rangeland management is funded at \$43.4 million, an increase of \$24.9 million over the 1995 Appropriation. This increase is the largest in the fiscal year 1996 budget. It is urgently needed to accomplish improved grazing permit administration, accelerated rangeland and riparian restoration activities, increased range forage improvements, and additional noxious weed control actions.

Recreation Use is funded at \$229.0 million, an increase of \$8.4 million over the 1995 Appropriation. The increase will be used to serve an increase in users and to continue emphasizing the improvement of customer service, correcting resource damage and health and safety conditions, and improving the management of heritage resources.

Forestland management is funded at \$214.4 million, a decrease of \$23.4 million from the 1995 Appropriation. The decrease in funding is due to reductions in the amount of timber volume to be prepared for sale. The projected sales program level is estimated to be 3.7 billion board feet (BBF). Of this volume, timber salvage sales are projected at 1.5 BBF and are financed by the Timber Salvage Sale Fund.

INTERNATIONAL FORESTRY

An important strategic goal for the Forest Service's international forestry program is the promotion of sustainable forest management in other countries that would also result in benefits for the United States. The 1996 President's Budget is \$10.0 million, an increase of \$3 million over the 1995 Appropriation.

FOREST RESEARCH

The goal of the Forest Research program is to provide new knowledge and technology to support management to protect the ecological integrity of the Nation's natural resources, improve the compatibility of competing resource uses, and expand resource use opportunities. The 1996 President's Budget is \$203.8 million, an increase of \$4.0 million over the 1995 Appropriation.

Approximately \$6.2 million of funding is redirected to high priority research needed for implementing ecosystem management by reducing and terminating low priority programs. As noted earlier, the demand for science to underpin controversial natural resource decisions continues to increase. Examples of integration of science into on-the-ground management includes the President's Plan for the Pacific Northwest and the Columbia River Basin Ecoregion Assessment.

STATE AND PRIVATE FORESTRY

The goal of the cooperative State and Private (S&PF) programs is to provide assistance on a voluntary basis that helps manage, protect, and use the forest resources on Federal, tribal, State, local, and private lands to meet domestic and international economic, social, and environmental goals.

The President's Budget is funded at \$187.5 million, an increase of \$26.5 million from the 1995 Appropriation. This includes an increase of \$20.8 million for the Forest Stewardship program and the Stewardship Incentives Program. This increase is designed to increase technical assistance and multi-resource management practices in support of environmentally sound management on nonindustrial private forest lands, which are experiencing dramatic increases in timber harvesting and declines in reforestation.

Modest increases are proposed for Forest Health Management, Forest Legacy, Natural Resource Conservation Education, and Urban and Community Forestry.

FOREST FIRE PROTECTION

The goals of the Fire program (including Forest Fire Protection and the Emergency Firefighting appropriations) are to provide fire management, presuppression, and suppression on National Forest System lands, adjacent State and private lands, and other lands under fire protection agreement.

Forest Fire Protection is funded at \$164.3 million, an increase of \$4.1 million from the 1995 Appropriation. Included in this funding is \$24.5 million for fuels management, a 50 percent increase from the fiscal year 1995 Appropriation, to reduce the potential for and costs of catastrophic wildfires.

Emergency Forest Service Firefighting is funded at \$239.0 million, a 10-year adjusted average, which is a decrease of \$187.2 million from the 1995

Appropriation. However, the fiscal year 1995 Appropriation included \$200.0 million in supplemental funding that has been applied towards expenses incurred in the unprecedented fiscal year 1994 fire season. The fiscal year 1996 funding proposal, along with other available authorities, is expected to be adequate to deal with foreseeable fire emergencies.

CONSTRUCTION

The Construction appropriation provides for restoration, construction, and improvement of buildings, utility systems, dams, recreation facilities, roads, bridges, trails, and other physical facilities and acquisition of administrative sites.

Construction is funded at \$192.3 million, a decrease of \$10.5 million from the 1995 Appropriation. Construction of new facilities continues to be de-emphasized as we simply must put our priority on taking care of the land and facilities we already have.

Road construction is increased by \$4.2 million with emphasis on access to recreation sites. The bulk of the program is directed at reconstruction of a deteriorating road system with serious public safety and sedimentation problems. Construction of facilities is reduced reflecting the priority to first operate and maintain existing facilities.

LAND ACQUISITION

The Land Acquisition appropriation provides for the acquisition of lands and interests for high priority recreation and conservation opportunities within the national forests.

Land Acquisition is funded at \$65.3 million, the same level as the 1995 Appropriation. The acquisition of approximately 45,014 acres for protection of critical wildlife habitat, cultural and historic values, Congressionally designated areas, and other purposes are planned.

PERMANENT AND TRUST FUNDS

Other funds associated with the 1996 budget include the use of permanent and trust funds which are combined with appropriated Forest Service funds to accomplish common resource activities. These funds, especially the Salvage Sale Fund, are closely related to the programs discussed above. Trust funds are declining as timber harvest decline. The salvage sale fund level is projected at about the same level as 1995. This level ultimately depends on the salvage opportunities that become available.

SUMMARY

The Forest Service is working to be as efficient as possible to meet public demands. The Forest Service continues to emphasize volunteers and public participation through challenge cost sharing and other means. In virtually every program area of the Agency, the demand for greater outputs and services has outstripped funding. There is an urgent need to work on some severe forest health situations and to restore ecosystems. The need to do more comprehensive analysis before

project implementation and to ensure that science is appropriately used in problem solving is a real and growing cost for the Agency. Chief Thomas and I are very concerned about the Agency's ability to fund the monitoring and evaluation work required as it implements projects.

These are among the difficult issues the Forest Service faces as they develop and carry out budgets to implement Agency programs. I believe the fiscal year 1996 budget for the Forest Service is a balanced proposal that promotes conservation leadership and addresses some very high priority natural resource issues.

That concludes my testimony. Chief Thomas and I would be happy to answer any questions.

SKI AREAS

Senator GORTON. Senator Domenici asked me earlier this year to chair a Republican task force on privatization as a part of our work on the budget.

The subject I am about to broach to you did not come up during the period of time that we were working on it here. It came up as the result of a question I got during the last recess at home.

It had to do with private ski areas on Forest Service land, perhaps, the most intensive private contractual use that you have permanently on Forest Service land.

I wonder if you can tell me, I do not know if you are prepared for this question, you may have to submit it later, how many ski areas there are across the country located on national forest lands, the size of them, and the amount of acreage involved.

Let us just start with those. Do any of you know the answers to those questions?

Mr. LYONS. I do not know that I have the specific number of ski areas. Gray says there are about 130. We do, however, as you know, provide most of the downhill skiing opportunities that are available across the Nation, about 90—

Senator GORTON. That is right. This is in the East. I suspect that is true in Vermont, too, is it not, Pat?

Mr. LYONS. This is nationwide, about 90 percent of the visitor days for skiing across the United States. We think our partnership with the National Ski Areas Association and the individual operators, operators like Tom Leonard, in Crystal Mountain, WA, is a very valuable partnership.

We are in the business of managing the mountains more often than not, that are the source of the recreation they provide. They oftentimes, though not always, own the base operations in the—

Senator GORTON. In those areas, are there any significant numbers in which the ownership is mixed, that is to say, the private owner owns some of the land in the ski areas, and rents considerable amounts of it from the Forest Service?

Mr. REYNOLDS. Yes: there are. There are different situations. In most cases, the base area for most of our ski areas is privately owned. Most of the mountain where the developed ski activities actually occur is usually national forest land.

Senator GORTON. Each of these is on a long-term lease. The Forest Service gets a certain amount of income from them. Is it generally based on an annual rental, or is it a percentage of receipts—what kind of contracts are they?

Mr. LYONS. Well, now you are touching on an issue that has been the focus of considerable controversy, going back to when I was on

staff in the House. By statute, most areas, or all areas will be on a 40-year lease.

That was by authorization that was passed, I believe, in the early nineties. The fees which are paid by ski areas are based on a formula that is—well, actually, it is based on a system called the graduated rate fee system [GRFS], which involves probably more accountants than I would like to acknowledge, but certainly is intended to develop a fee which meets the fair-market value, which is our obligation under law.

The Forest Service has been working with the ski industry over the past 2 years to try and come up with a more simplified approach to developing a fee basis.

In fact, we have underway a study in the Forest Service that will soon recommend options for how we develop a system that will ensure fair market value for all our ski areas.

I understand the ski industry, as well, is looking at proposing or seeking to obtain legislation that would actually legislate a formula for determining how much of a fee they would pay.

Senator GORTON. What history, if any, does the Forest Service have in selling all or a portion of its holdings to the ski area licensees?

When you say that many of the base areas are owned privately, were they historically owned privately, or were they sold at some time or another?

Mr. REYNOLDS. In most cases, the pattern of development in the West was such that those lands were in private ownership before the national forests were established.

But in some cases, there have been exchanges between a national forest and private landowners to assure that there was a satisfactory base area for development.

Mr. LYONS. Now, keep in mind that there were no ski areas 100 years ago in those areas. We do not have a history of selling our lands to ski areas, I think would be the fair short answer.

Senator GORTON. Sure.

Mr. REYNOLDS. We do not have the authority to sell our land for ski areas, or any other purpose. Our exchange authority is the way we can block up our boundaries.

Senator GORTON. Can you think of any practical or conceptual objection to offering for sale lands which have been used extensively, and will continue to be used extensively, for that kind of private activity?

Mr. LYONS. Well, yes. Those lands are still multiple-use lands, and they serve other purposes, not just simply the needs of the ski areas, which they serve normally during, of course, the winter months. Those are still public lands. I believe, personally, they should remain in public ownership.

Mr. THOMAS. Senator.

Senator GORTON. Yes?

Mr. THOMAS. One other point—outside of philosophical objections, you are looking at a single potential buyer, if the person has the base property, and you are looking at selling the slope, outside of the multiple-use aspects and the others.

So, obviously, you would have to set a price. You could not put it up for bid, because there would only be one bidder.

Mr. LYONS. It would be difficult now. I would offer this, and this is a caution I have candidly offered the ski industry, I think if you look at the profitability of the ski industry: which is often viewed as significant when one thinks of the Aspens and the Vales of the world, one quickly realizes when you look at their profitability, that there is a huge capital investment, and the profitability may not be as high as one imagines.

I dare say that there are few ski areas that would have the capital to purchase their actual area, and I think you might find the potential exists for outside buyers coming in and monopolizing many of these areas.

So it is, I would think for the ski industry, a rather risky venture, as well as one I think philosophically I would have a real hard time with.

RECREATION BACKLOG

Senator GORTON. Thank you. I will go into on to another subject now. In the latter part of last year, Gifford-Pinchot National Forest announced that it would be required to close some trails in the campgrounds by reason of funding constraints.

I was troubled by this announcement, because this possibility was announced before the Forest Service had even received its 1995 budget allocation. I wrote to the forest supervisor and was told that Gifford-Pinchot, not unlike other forests across the Nation, has a huge maintenance and operations backlog.

Now, what kind of direction is the Forest Service giving to its regional supervisors about a focus on maintenance and operations functions?

Mr. REYNOLDS. Our direction is to emphasize maintenance of existing trails, roads, and structures, but we are running about 33 percent available of the necessary dollars in order to meet—

Senator GORTON. Even to do that.

Mr. REYNOLDS. Even to do that. We have almost totally backed off of new construction, except in those isolated areas where it is absolutely necessary.

I think the forest supervisor of the Gifford Pinchot National Forest—well, I have not seen that exact letter to which you are referring. Forest supervisors are operating, based on the situation they are faced with, with a tremendously increasing backlog in our entire recreation area.

Senator GORTON. If you only have 33 percent, and it may go down, of the amount of money needed to maintain what you already have, from the point of view of that kind of recreational user, do you have any plans to seek other sources, to make partnerships with conservation kinds of organizations to get volunteers to help you work with these matters?

VOLUNTEER MAINTENANCE

Mr. THOMAS. Yes, sir; we have a very strong volunteer program. In fact, this year we celebrated our 1 millionth volunteer that has worked with the Forest Service essentially for nothing.

We are increasing our volunteer efforts. We are also stepping up dramatically our partnership efforts. We were recognized last year

with a prestigious award for both our volunteer programs and our cooperative programs.

I forget exactly what the number is, but our number of cooperators and partners is increasing, essentially, monthly.

Senator GORTON. So a significant portion of your maintenance right now is being conducted by volunteers, correct?

Mr. THOMAS. Yes, sir.

Mr. LYONS. We depend on the kindness of others, Mr. Chairman, I am afraid.

I would also point out that the National Forest Foundation, which was authorized several years ago, can serve as a partner in helping to solicit private donations of funds for the purposes of improving the National Forest and promoting their wise use. So I think there is potential there to work with them on private donations.

Senator GORTON. Have you received any such funds, any such gifts?

Mr. LYONS. We have received some gifts. I think it is fair to say the foundation is really just getting its legs underneath it.

SALVAGE SALES

Senator GORTON. On another subject, Mr. Secretary, I have reviewed the capability statement provided to the House and Senate appropriations committees on the emergency salvage timber sale language included in both rescission bills, which are now, as you know, in conference.

Certainly, I was encouraged that the Forest Service concluded that it could harvest roughly 6.7 billion board feet in salvage timber with the sufficiency language provided in both the House and Senate bills.

Assuming enactment of the provision this month, and assuming that its authority continues through fiscal year 1997, which would be a change in at least the Senate bill, this harvest level, as I understand, is about 2.2 billion board feet more than programmed salvage levels.

While I think this reflects a good faith effort on the part of the Forest Service, given the short time you have had to get information from the field, I am concerned about numbers from individual regions.

Some of the volume estimates put forth by the regions are identical, or with only a minimal increase, with or without language provided by the House and Senate to expedite these sales.

With this in mind, could you inform me about the leadership and direction that the central office of the Forest Service will provide to field directors, assuming this efficiency language and the expedited preparation procedures are signed into law?

What kind of direction will your forest supervisors, biologists, and other employees in the field have to carry out the will of Congress, if the will of Congress is something like what the two Houses have passed?

Mr. LYONS. Before I answer that question, Mr. Chairman, I would like Jack, who made the initial request of the regions to provide information about the capability, to respond and clarify what the numbers are, because I think the number that you used may

be an overstatement of what the capability statement actually provides. I will let Jack clarify.

Mr. THOMAS. Basically, Senator, I think we gave you three potential levels, one as a current capability under current law.

Then we gave one that would be our current capability with modifications that continue in the other, and the third is the full-bore operation that we had no—that we could actually get reemployed people, contractors, et cetera, in—and that would not be a barrier.

Actually, I think probably capability two, the second one, is what we are discussing. I have already told our regional foresters to tell their forest supervisors that we know something is coming.

We do not know quite what it is, but I think it is fair to assume we know something is coming. If nothing comes at all, we still have what we think is a fairly aggressive program.

We have told the field force that, of course, as a primary underlying basis, we obey the law. I have also told them, however, I do not believe it is the intent of Congress or the President to ask us to jeopardize basic resources.

And I have said we will obey the law; however, we will obey also the standards and guides that are set in place in the forest plans, or some slight modifications, as justified—

Senator GORTON. Which are not affected by either rescission—

Mr. THOMAS. That is correct. We will stay with those, with that undergirding premise that has been developed appropriately by law in the forest plans to protect resources.

If it comes down to a point where we cannot do that, I will be back to see you and tell you that we have hit a roadblock. But I have told them that we are expected to obey the law.

This is a can-do operation, and we will execute it, if that is our instruction, and the President signs it. But we will also make certain that we do not damage the basic resources of this country.

Senator GORTON. That, of course, was a distinction that was made. The bill was aimed at endless lawsuits and appeals, not at the way in which the Forest Service manages its lands.

Mr. LYONS. Senator, if I could, I think it is very important that the Congress, in this conference, make abundantly clear that it is not your intent for us to violate the standards and guidelines that are in place, because we believe that is essential to ensuring that we meet our mission.

We see this salvage issue, as I said, as one element of an overall forest health strategy. It is critically important that we operate in a manner consistent with the law, but I think it is critically important that as we operate to address salvage, we are also assured, in being given latitude, to make sure that we do not violate the integrity of the resources that we are entrusted to manage, so that we can sustain the health and the sustainability not only of timber resources from those forests, but, of course, the other resources that are critically important in production from the National Forest System.

Also, if I could, I understood you to use a figure of 6.7 billion board feet. I just want to clarify, so there is no question.

In the capability statement which we sent to the committee, I think you were referring to some documents that were preliminary

estimates that were sent to Congressman Young regarding the Taylor amendment. Our capability statement states that our organizational capability, with streamlining provisions of the amendment applied, would amount to approximately 5.387 billion board feet.

SALVAGE CAPABILITIES

Senator GORTON. What are the impediments between your 5.387 figure, which you give us under administrative capability, and the 6.742 figure, which is the line under economically operable volume with the Taylor amendment?

Mr. LYONS. I think you will find that the amount of volume provided for in the Taylor amendment is beyond our organizational capability, as estimated by the regions. It is also beyond the maximum economically operable salvage volume meeting the substantive provisions of Federal environmental laws.

Mr. REYNOLDS. There is one additional point I would like to make.

Senator GORTON. Is that personnel driven, or is it driven by your feeling that in spite of personnel, that would be the highest volume you could get, consistent with the laws under which you operate, other than this rescission bill?

Mr. LYONS. It is a function of both, Senator. I am certainly going to give Jack a chance to elaborate on the capability of his organization.

But, as you know, the timber organization in the Forest Service has been going through a downsizing, as directed by the Congress, going back to 1992, reflecting changes in priority that were set by the previous administration. So we have moved forward with those reductions.

That, in part, has impacted us from the standpoint of organizational capability. But then there is the issue of whether or not we can maintain the integrity of resources, operate consistently within the standards and guidelines that are currently in place, and produce the volume of timber that we are talking about. So both factors come into play.

Senator GORTON. What is your margin of error in all of these figures?

Mr. LYONS. I do not know. Jack?

Mr. THOMAS. The best estimate that we have of the margin of error is plus or minus 25 percent.

Senator GORTON. Plus or minus 25 percent.

Mr. THOMAS. Yes, sir; these things have been done very quickly—I think well, but quickly. One other thing I would point out, in terms of organizational capability, is that we have information that we can give you on staffing, et cetera, but it is also a process of the right people in the right places.

And, the fact is that we are in the process of stepping up and preparing a considerable number of environmental impact statements for renewal of grazing operations, which is also a significant part of our program.

In many cases, the same people that would prepare the appropriate documentation for the salvage sale are the same people who

would prepare grazing renewal operations. So it is a matter of juggling those things, and having the right people in the right place.

We also do not know, even given the leeway in the bill, of how many people have taken buyouts, et cetera, and are available to come back. I think we are trying to test that out right now, anticipating something, but we do not know what.

We do not know how many of those people are available or interested. The ability to contract is strictly brand new ground for us. We have never contracted much assistance in the preparation of sales.

I do not think there is a lot to be gained there, because we are going to be in a learning mode. I think by dealing with those people as contractors, providing the information, and checking it, there may not be an efficiency there that appears on paper.

Senator GORTON. Is it partly for these reasons that you asked us to extend this authority through fiscal year 1997?

Mr. THOMAS. I will ask Gray to address that a little bit more if I do not get it right, but, basically, by the time we get this instruction, whatever it is, we are entering into our field season now.

By the time we get that instruction, and we get it to the field, and start operating, what we would prepare in fiscal year 1, in fiscal year 2, some of it would not come to fruition until fiscal year 3, because we are off track—the years from the bill's standpoint are not the years that fit our fiscal years. So it would lap 3 fiscal years.

OPTION NINE

Senator GORTON. I am going to summarize now. I have to go and manage the next bill.

I do want to ask you—you can amplify this answer, if you wish, but I want to ask you a question on a different, but related subject.

Last Wednesday, the Portland Oregonian reported that three environmental groups filed legal challenges to 12 timber sales under option nine.

The group stated, and I quote, "All logging on public lands should be illegal."

That attitude, of course, would include salvage sales as well. I am not stating at this point that this represents the views of all of the environmental organizations, but it only takes one to bring a lawsuit, or to file an appeal.

Both with respect to salvage logging and option nine, the amendment which Senator Hatfield and I drafted is designed to frustrate frivolous challenges of this sort.

The administration's position is that sufficiency language is not needed to meet the board feet total, either in option nine or your own goals with respect to timber salvage.

In light of these legal challenges, and the near certainty that, for all practical purposes, every sale will be subjected to such challenges, do you still hold the position that you can do just as much in option nine and timber salvage without sufficiency language as you could with it?

Mr. LYONS. We believe, Mr. Chairman, that we have developed a legally sound plan, as has been determined by Judge Dwyer, with regard to the President's forest plan for the Pacific Northwest.

We also believe that the savings that can be provided, in terms of expediting sales, comes from expediting activities such as consultations and other activities that can help us move volume more quickly.

I think the issue at hand, whether or not we are going to be challenged on any and all sales, is a speculative one, but I believe that through use of the improved appeals process, which was legislated by this body, as well as through the development of a legally sound timber sale program, that we can move forward in an aggressive way.

I want to point out something that could also impact on our salvage program, but impact, as you know, on the volume of timber we were able to prepare last year, in accordance with the President's forest plan, and that was the extent of fires we had last year.

We had every available hand fighting fires throughout the West, and that certainly limited our capability to be in the field during the field season, which is the summer, to prepare and offer volume for sale.

All those factors have to be taken into account; but, nevertheless, I want to assure you the administration is committed to as expeditiously as possible reaching a sustainable level of timber production in the region that was affected by the forest plan.

Senator GORTON. Thank you. Your answer is noted. I will have others in writing.

FOREST LEGACY

I am sorry, Senator Leahy. I did want to give you an opportunity.

Senator LEAHY. Thank you. I appreciate having a couple of minutes.

I understand that the forest legacy task force, which you folks created at my request, made their final report to the Under Secretary. Incidentally, I wanted to thank you for doing this. I hope the Forest Service will expedite these changes. I want the program to move forward as quickly as possible.

As I noted earlier in my statement, the chairman, Senator Gorton, has been a good supporter of forest legacy. I think he knows, as I do, that it is designed specifically for times like this, when we have this view of budget constraints, private property issues, timber demand, tax relief, conservation, and we are trying to balance all of those together. I think Legacy serves all of those concerns. I want to compliment the administration supporting that.

The Forest Legacy program has always been a nonearmarked program. The number of participating States steadily increases.

Can we get this program moving even more efficiently between now and the next fiscal year?

Mr. LYONS. Senator, let me introduce my Deputy Chief, Joan Comanor, who handles State and private forestry. I think she can best respond to those questions.

Senator LEAHY. Ma'am.

Ms. COMANOR. Yes, sir; thank you, Senator. We do appreciate the support that you and others have provided to Legacy, and quite frankly, our performance in getting a brand new tool up and running has been disappointing, I know disappointing to you and a

number of the citizens of Vermont, as well as to us, because as Jack mentioned earlier, we do feel as though we are a can-do outfit.

As a consequence of concerns expressed, we did establish the task force. It did a very comprehensive review, and had some very frank discussions about what was working and not working within our own operations.

As a consequence, they came up with eight recommendations, two of which we needed to discuss further with the Department, but the six recommendations that were solely within our responsibility to implement have been approved and are, as we speak, being implemented.

We have increased some delegation of authority to the field, so that we can get decisions made closer to the level most knowledgeable about the issues.

We are told by our staff that, with the application of these new procedures, they hope to cut down the length of time for processing conservation easements by about 12 months. We hope to be able to demonstrate that we can make this a viable part of our tool kit for working with private lands.

Senator LEAHY. Well, I hope you can keep on pushing forward. If you find other parts of the administration are slowing down, let Senator Gorton and I know.

I think we are together on wanting this to move forward, and we will be happy to make calls anywhere possible, because it has raised now a lot of expectations in the areas where the legacy program is, including my own State, and everybody wants to see it move forward.

These are the kind of things where, as you know, we have to bring so many different people together from all these various conflicting views, and once having done that, if you then just sit there and nothing happens, the discouragement becomes even more pronounced. I know you do not want that. Of course, I do not either.

I mentioned before this hearing began, Mr. Thomas, I was up in part of the Green Mountain National Forest in the Ripton area, the area where Robert Frost lived for some time.

I was there over the weekend. I do not have to tell you how beautiful that is. You have been there. I think of the fact that there are 70 million people on the east coast who can drive to the Green Mountain National Forest in less than a day's drive, I think they all do at the beginning of foliage. I love to see them come. I love to see them go.

But the Forest Service has been one of the most helpful things with these people. We now have outstanding offers of 32,800 acres from people who want to build a forest.

These are willing sellers. This is not anything forced, or condemnation, or anything else. These are willing sellers.

Now, we have a half-million-dollar request in the fiscal year 1996 budget. We have 32,800 acres, worth probably \$16 million or \$17 million. We have a half-million-dollar request. How do we get ahead of this package?

Mr. REYNOLDS. Well, each year we go through a process trying to set up priorities across the country with funding that we have available.

According to our records I am looking at here, Senator, there are about 10 to 15 priority purchases that we have identified on the Green Mountain National Forest; the estimated value is about \$5 million.

The \$500,000 is our capability this year on a national priority setting basis to work on those priorities. We agree with you on the total of 32,800 acres that we have a notice of intent.

Senator LEAHY. Are there things we could do to help on this, because what I am afraid of is that these offers may not be there in the future. Land values tend to go up, not down. Is there some way that we could lock some of these in?

The good news is that there are 70 million people within the drive time of that—it is also, in some ways, bad news, because there are those who may figure we will just do it purely for commercial development, and then it may not be available to people who now have it available to them. Is it a case where you just need more money?

Mr. REYNOLDS. Well, it comes down to priority setting for our overall program. With the reductions that we are facing in our budget, we are trying to emphasize what we have, and using our exchange program to try to deal with some of these additional needs, these priority needs, through land exchange.

It is very difficult to look at a large national land acquisition program under the budget situation we are faced with.

APPEALS PROCESS

Senator LEAHY. I understand. Let me ask one last question. If there is anything else, I will put it in the record.

In the 1992 appropriations bill, we worked out a new procedure for the Forest Service appeals process, and that was something that Republicans and Democrats joined together on, and it guaranteed a final decision within 105 days.

This was done so that we could have timber sales go forward, rather than have them just sit there forever and forever in an endless process. I thought it was working.

I would just like to know how many Forest Service decisions have been made under the new process, how many appeals there have been, and how often has a project been blocked.

Mr. UNGER. Senator, I will respond to that. After about 1 year's experience with the new appeals process, it is working quite well. We have had something over 500 appeals in this period.

I would say that after the startup period, when we did have some training to do and we missed a few deadlines, since that very early period, we have been meeting our deadlines for appeal decisions on time.

Senator LEAHY. Have there been a lot of sales delayed, or just a very few?

Mr. UNGER. Well, it depends, 500 appeals, of course, is a significant number. We make something like 20,000 decisions every year of all kinds, a large number of those being timber sales, but others being recreation projects and other decisions.

In 1993, the last full year before the new process, we had 2,600 appeals, although that was misleading, because there were a large number on one project, so we cannot compare directly.

If we proceed on the basis of what we have so far in this fiscal year, it looks like we have something like 1,000 appeals altogether. But we have been able, reasonably and expeditiously, to move these through the process, and not hold up the activity to an undue amount.

Senator LEAHY. Well, the compromise we worked out, the House appropriations bill, is working.

Mr. UNGER. I would say it is working reasonably well. Yes, sir.

Senator LEAHY. Thank you, Mr. Chairman.

Senator BENNETT [presiding]. Thank you.

Senator LEAHY. I will submit everything else for the record.

TIMBER SALES

Senator BENNETT. Thank you. Without objection. Before I recognize Senator Burns, let me just ask you: Of those appeals, how many were upheld in the point that no sale went forward?

Mr. UNGER. We withdrew about 24 decisions as the result of the appeals; 9 have gone to litigation, so those have certainly been held up, out of that first 500. The rest, let me see: about 36 were resolved during the informal consultations that were held between the appellants and the Forest Service.

I do not know exactly how many of the 36 resulted in stopping the activity or redoing the activity, but other than those, all of them have gone forward.

Senator BENNETT. So in round figures, we have 500 appeals, roughly, and there are about 30, or maybe 6 percent, that resulted in stoppage.

Mr. UNGER. That is——

Senator BENNETT. So would it be fair to say that 94 percent of them were without foundation?

Mr. UNGER. That would be my estimate, based on the information that we have.

Senator BENNETT. I see. Thank you.

Senator Burns.

Senator BURNS. Let us take that one step further.

Thank you, Mr. Chairman.

How many sales did you put up last year?

Mr. UNGER. I do not know the total number of timber sales out of that 20,000 decisions, Senator Burns. I would have to——

Senator BURNS. Do you know?

Mr. REYNOLDS. No; I do not know the number, Senator Burns. We could get that and provide it to you.

Senator BURNS. I would sure like to have that number, because I think that when you look at all that, I think the vast majority are not sales.

[The information follows:]

CONVERTIBLE PRODUCTS SALES

Last year there were 215,268 convertible products sales. Of that number, 197,201 were sales up to \$300 in value and were primarily fuelwood sales. Another 15,025 sales were small sales under \$2,000 value. The remaining 3,042 sales were over \$2,000 in value.

SALVAGE SALES

Senator BURNS. I want to set the stage here a little bit, Mr. Lyons. I think we have paralysis by analysis now.

If I heard you respond to the chairman's question of how you are going to handle the salvage thing, and if there is some disagreement about the amount of board feet, I get the feeling that, no matter what we pass in this bill, you are not going to go ahead and proceed with the intent of this Congress, is that true?

Mr. LYONS. No; That is not true.

Senator BURNS. Well, then enlighten me.

Mr. LYONS. Well, I think Jack's adage applies very well, Senator. We are going to obey the law.

What I simply said was, I hope that the Congress, in resolving issues in rescission, will see the value in ensuring that we achieve the dual goals of capturing the economic value of the salvage that exists on the landscape, and maintaining the integrity of the other natural resources which are part of the national forest that will be affected by a salvage sale program. Our intent is to obey the law.

Senator BURNS. OK. I will go back over that in a little bit, but I just feel that we are going down the road the same way we went down the road up in the Yak. We even got the court to say OK, we could do some salvage up there, due to disease, and we never cut one salvaged tree. That, I guess, concerns me, whenever we start down this road.

STRATEGIC DIRECTION

Now, your long-term strategic direction, you have here protecting the ecosystem, restoring deteriorated ecosystem, providing multiple benefits for people within the capabilities of the ecosystem, ensuring organizational effectiveness.

Nothing is said in here about—we might as well turn the forest into a park under these guidelines, is that correct? Again, I want you to explain that to me. I do not see anything in here about the timber program.

Mr. THOMAS. Read No. 3, sir.

Senator BURNS. Well, No. 3, "Providing multiple benefits for people within the capabilities of the ecosystem."

Mr. THOMAS. That is part of the multiple benefits: timber, grazing, minerals, recreation, and water. Those are multiple benefits, defined by law.

Senator BURNS. All right. I am just going from what Mr. Lyons said, international forestry. I do not understand why we are spending \$10 million there.

STATE AND PRIVATE FORESTRY

Your organization here, on State and private forestry, we have report after report after report that we are having timber sales, we are making a profit on forestlands that are in private hands, privately held hands, and yet—in the State lands of the State of Montana.

Now, what expertise do you think you could take to the private industry and make them do it better? Because all of ours, we are in a so-called below cost, or none of our sales make money.

Mr. LYONS. Well, Senator, let me first say that I think our primary clientele, with regard to the State and private forestry programs, are the States as well as the private nonindustrial forestlands, which tend to dominate the landscape throughout the United States.

We have seen a shift in demand for timber production to both industrial and nonindustrial forestlands. I think that is, in part, reflected by the fact that we have seen a dramatic increase in stumpage values, which allows some of these landowners to suddenly realize the benefit in the value of the private property that they hold.

We have a long-standing and important partnership with the State foresters, not only oriented toward the production of timber, but the protection of those forest resources from fire, insects, and disease, as well as a working relationship to achieve other goals and objectives that the Nation has set as a whole.

Let me refer to Joan Comanor, who can elaborate on what role we play on State and private lands.

Ms. COMANOR. In addition to what Mr. Lyons pointed out, one piece of information you may not be aware of is, since over one-half of America's forests are in private ownership—that is, non-Federal or non-State ownership—the latest information that we just completed and are compiling at present, indicates that less than 20 percent of that non-Federal, privately owned land base is managed for full productive capacity, regardless of what the landowner's objectives are.

So what we want to do is help create some additional knowledge in privately owned lands with the landowners, to help them meet their objectives, but also bring that land into a far better productive State, much of which would also help produce additional timber for mills, and for jobs in different areas of the country.

Senator BURNS. But we are having all these problems on our forests, and I could walk them through where it is just absolutely bad management, and now we are going to go onto the private lands and offer them our expertise, when they are managing theirs very well. I have some very serious problems with this business of encroachment of private property here.

I think you have some expertise you could offer, but whenever you go out there, and on these ecosystem management areas, where you are taking away certain rights and certain practices by a private landowner—

Mr. LYONS. Senator, I do not know where you are coming from. We do not do that at all.

Senator BURNS. If we are having a problem managing our own public lands, what do we have to offer people that have private lands, that are complying with all the environmental laws, and good management practices, and managing their lands, and making a living off them?

Ms. COMANOR. If I could take a shot at the answer to that Senator—what we offer to private landowners is assistance in meeting their management objectives. Private landowners are not constrained by some of the requirements that we are faced with on public lands.

We bring knowledge on simple tree planting, tree care, stand maintenance, and we are finding that more and more of our con-

tacts indicate that many of the people that we are helping—at their request and only at their request—just simply do not have knowledge about the types of management techniques that are helpful to them.

A number of them are very productive timberlands, but we are trying to reach the next level or next tier of land-ownerships that do not have the knowledge, nor know where the knowledge lies.

We are doing it through assistance from consultants, State forestry agencies, and the like, but it is to meet their management objectives, not multiple-use management, *per se*.

Mr. THOMAS. Senator, I would like to make one more point. One of the reasons they may be doing so well is that State and private forestry has been doing so well for a number of decades.

The things that they are basing their management on are things that have been brought to them through the State foresters, through the State and private programs, through extension for years and years and years. One of the reasons they may be doing so well is because of that program.

INTERNATIONAL FORESTRY

Now, one other point I would like to make, there was a quick passing reference to international forestry. International forestry was mandated by the Congress. We welcome that.

I just came back from a meeting in Rome, with the food and agricultural organization, and I promise you, if I had great interest in the commercial operations of forestry in the United States, and how it plays in the world, I would be very careful with being quick with reductions in our international forestry program.

There is a foment in the world toward sustainable forestry, toward certification of forest products. We are one of the world's great importers and exporters of timber. We must play within that game.

Also, within the last year, we faced a great argument about the importation of mahogany, which is critical to furniture manufacturing in this country.

International forestry was able to bring information to bear on that subject. Had we not had that information, I think we would be looking at some serious restrictions in the future potential of mahogany and in furniture manufacturing in the United States.

The former Soviet Union, Russia, is now being looked to as an exporter of softwood to the United States. I would hope they do not export the Asian gypsy moth at the same time.

I would hope that we do not export environmental degradation in hoping to import their timber. Those are the roles that we play in international forestry. And given the very small amount of money that is going into it, we play it very well, in my opinion.

STATE AND PRIVATE AREA

Senator BURNS. Well, the thing about it is, and you can lay all that out, and I have an open mind on it. I want to discuss to the State and private area again.

If we cannot make our targets on public-held lands, and then in the private sector, they are making theirs, and doing it in a sound

fashion, I just do not understand why we want to fiddle around with that. I say let us manage our own, and let us let the private land people manage theirs.

I tell you what, I think they have foresters, and they have—I would agree with Jack here, but a lot of those come from State programs. They sure did not come from Federal programs.

Mr. THOMAS. What do you think stimulated the State programs in the first place?

LAND ACQUISITION

Senator BURNS. I will be right honest with you. When we get into the entanglement of mingling private and public lands, I will ask you about your land acquisitions. As Senator Leahy wants to take care of his up there, I would like a report on who we owe money to on land acquisitions, and how old some of those are, because I think up in our part of the country, you have some that are fairly old, that the money has never been allocated to pay for.

I would like to have a report on that. We know the Park Service has some.

Mr. LYONS. I am not familiar with that, Senator, but we will certainly look into that. I do not want to overemphasize the State and private issue, but I do want to make one important point.

If you are concerned about private property rights and private property values, we can offer you documentation that shows that, in those instances where a private landowner seeks the assistance of a professional forester, which is often made available to the State offices of the State forester through support from the State and private forestry program, that the value of the timber that that individual gets from the land increases. The value of the residual stand is that much greater, all because of the advice that has been provided by a professional forester.

I would encourage you, Senator, to contact your State forester and discuss with him some of the virtues of the State and private forestry program, because I think it is critically important, both in the East and the West.

Senator BURNS. Well, I guess I live too close to it, but those are not the stories I am getting. I guess I live too close to it, Mr. Lyons.

I see those tentacles go out there, and I become very, very nervous about it. I am sorry if I am. I still would like to know about those land acquisitions, where they are, and how old the acquisition cases are.

Mr. LYONS. We will provide that, Senator.

Senator BURNS. OK.

[The information follows:]

LAND ACQUISITIONS

There are no cases where we owe people money for land acquisitions from previous years. We cannot obligate funds prior to their appropriation. In some cases, the options for high value properties are designed to allow the annual purchase of portions of the property based on funds being appropriated.

We have two active land acquisition programs in Montana that are focused on protection of the Greater Yellowstone ecosystem and the Flathead Wild and Scenic River. In the Greater Yellowstone Area, we have purchased approximately \$9 million of a \$16 million property owned by Big Sky Lumber Co. We are currently working with the landowners and the Rocky Mountain Elk Foundation to complete the purchase in fiscal year 1996.

Also in Montana, we are in the process of purchasing wilderness inholdings and are in discussions with other landowners concerning future land acquisitions.

ROAD CONSTRUCTION

Senator BURNS. I have some other questions here. I want to let everybody else get a shot at this thing. I see you have road construction in here. They are closing roads in Montana, using graders. Why do we do that?

Mr. THOMAS. Some of those roads are bleeding a lot of silt into rivers. If we cannot maintain them, and they are silt sources, they are removed. It also restores that land to the base; that is, the production base, the timber base.

Basically, there is no tit for tat. The roads that we are taking out are not roads that we need for access to timber or other resources.

If we cannot maintain them, and keep them in a situation where they are not causing environmental degradation, they should be put to bed. It is something we have done for years and years and years.

Senator BURNS. But, they have been accelerated a little bit. I get them old folks up there in the northwest part of my State, after you with their huckleberry buckets. They come to me; they do not come to you. We have to do something about that, too.

I need that land acquisition thing. Just like I say, when we start talking about ecosystem, and we know there is intermingling with private property, let me tell you, I am very, very nervous about those kinds of systems, and then we come out here and—we are not making our own targets, and here we are offering advice to somebody else.

That just does not make a lot of sense to me. I sure show up—the whole thing says, “I work for the government, and I am here to help you.”

I am just reflecting the anxieties of my constituency. Yes, sir?

Mr. REYNOLDS. Could I answer? I understand your anxiety of private landowners, but if you look at the situation in the West, it is a pattern of landownership. It is not solid. In some areas—

Senator BURNS. Yes; we have to—that is what I say, we are—

WATERSHED ASSESSMENTS

Mr. REYNOLDS. So we share responsibilities with various landowners in watersheds, and the activities that occur on private land have a lot to do on what we do on public lands.

In many cases, where we have had over-harvesting and unwise care of private lands, there is a point where hydrologic limits are reached in a watershed, and then we have to wait, in order to move forward with plans we have proposed.

Senator BURNS. I think that is—

Mr. REYNOLDS. Ecosystem assessments are not intended to be a threat to private landowners. We are being very careful in our policies to make sure that that is understood.

But the information is available for use as they make plans on their own lands, and we encourage its use. You bring in this whole State and local and Federal relationship, as we all look for sustainability in the long run, and try to provide that sustainability that small communities need. That is the basis for this, Senator.

Senator BURNS. Well, we are going to be going through this budget very closely, and I am going to take a lot more interest in this budget than I ever have before. I will have some more questions.

We can work together on these things. This is not out of the realm of possibilities. We can work together.

I think we have some other things we are going to work together on, so I think we can work our way through this, but it makes me very nervous. I just want to make my concerns known.

Thank you very much, Mr. Chairman.

GRAZING PERMITS

Senator BENNETT. Thank you. Before we turn to Senator Stevens, there are many questions I would like to ask, but there is one that I would like to get here before we go off in some other directions.

We have not been talking about grazing, at least since I have been here. I want to call your attention to a circumstance that exists in Utah, and may well exist elsewhere, that is deserving of our attention.

Ten-year grazing permits issued as a group in 1985 are subject to NEPA analysis prior to being renewed. That seems benign. Gee, why not review something before you renew it?

But the net effect of this in the Dixie National Forest, in Utah, has been that hundreds of grazing permits that were issued 10 years ago, are being reviewed under NEPA, with a December 31, 1995, deadline, and we have been told that employees of the Dixie National Forest will be forced to spend between 50 and 80 percent of their time in the process of renewing the grazing permits.

This obviously has forced the redirection of the majority of the resources away from all other management activities.

Now, these are the obvious questions. What assurances do the permit holders in the Dixie National Forest have that the permit renewal process will be made a top priority?

Obviously, it is important to their economic survival that it be done, and that the Forest Service will be able to reach that December deadline.

How do you plan to accomplish this task, and then address the other question about what does this do to your ability to do other things, if you are meeting this priority?

NEPA ANALYSIS

Mr. LYONS. Mr. Chairman, let me point out that, unfortunately, you are not alone on the Dixie National Forest. There are about 9,000 permittees that have been impacted by a court decision in California, who are surprised and chagrined that we are required to do NEPA analysis on individual grazing allotments.

We have been working with the committee, specifically with Senator Daschle, Senator Pressler, and committee staff, on a mechanism that would provide us some additional time to meet that court ordered direction and complete NEPA analysis on these allotments.

We have discussed some alternatives that would allow us to extend those permits that might be impacted by a failure for us to

complete the NEPA work for up to 4 years, which would afford us the time to complete the NEPA analysis that we need to do.

We have also requested, as you can see in our fiscal year 1996 request, additional funds to do that NEPA analysis, as well as re-program any requests that will be coming forward, if it has not gotten here yet, to obtain the additional resources we need to do that NEPA analysis.

We think it is an unfortunate situation, and we are pleased to work with the Congress to provide us all some breathing room, to ensure that the permittees have no fear that they can turn the cows out this year, and not be forced to pull them off the range, because we have not been able to complete the NEPA work that is required.

Senator BENNETT. Is there anything you require from this committee to facilitate that, or is that all through the authorizing committee?

Mr. LYONS. Well, we are actually working through the committee during its consideration of the rescission package, but we certainly could use the additional resources that are requested in the 1996 budget.

Senator BURNS. We got an agreement yesterday on the Beaverhead, with regard to grazing—

Mr. LYONS. Yes, sir.

Senator BURNS [continuing]. Which I think is pretty good. But, again, I want to go back, to back up, Senator, if you would yield, but we have to get on with these NEPA things, because we did not get it done in 1986, and nobody got fired. I think we ought to follow-up on that a little bit.

Mr. REYNOLDS. Well, we are very happy with the settlement agreement on the Beaverhead National Forest. Senator, let me point out that on the Dixie National Forest, 141 permits this year must be reissued by the end of the year.

Senator BENNETT. That is a lower number than I was furnished.

Mr. REYNOLDS. Yes; but the total—

Senator BENNETT. I am not challenging your number. That is encouraging. If it is, in fact, 140, then maybe that is not as big a—

Mr. REYNOLDS. The total in region 4 is 914 this year. Next year, in fiscal year 1996, the number on the Dixie National Forest drops to one. That is the irregularity that we have on these 10-year grazing permits.

But this is a critical issue; 141 is a lot of work on the Dixie National Forest, with the other work that is going on.

As you may know, we will be happy to provide you the system that we have, where we go through and look at each individual allotment, determine what the conditions are on the allotment, as it relates to satisfactory grazing, and what we need to do from a NEPA assessment standpoint.

But I have been assured by the intermountain region that they will meet their commitments on all those reissuances. That is a high priority.

We also have the salvage bill, but we have our fingers crossed that we do not get a serious fire season this year.

Mr. THOMAS. We have, Senator, shifted under reprogramming assessment \$10 million to assist us within this year, and we are

shifting \$25 million in our budget request for the range program, in general, which for years has been deteriorating.

So we have obligated ourselves to it. We think we know how to do it. We are very seriously concerned about the welfare of our customers that are permittees.

They had no part of this, and we are trying to stay—and I think we are—on track, and I think we have a mechanism for doing it. At least we have put everything on it that we can.

Senator BENNETT. Very good. The committee has received a \$6 million reprogramming request for fiscal year 1995 grazing management activities, and we are reviewing it. We will be requesting some additional information before taking action on it.

Mr. REYNOLDS. My understanding is, that it is a \$16 million—

Senator BENNETT. Sixteen. I am sorry.

Mr. REYNOLDS [continuing]. Reprogramming request.

Senator BENNETT. Did I misspeak? I apologize. Yes; it is \$16 million. Right. I have a number of other questions, but I think we should go to Senator Stevens now.

TIMBER SALES

Senator STEVENS. Mr. Secretary, is what I was informed correct, that before I came to the committee this morning you said that with regard to the rescission bill, that the Forest Service would obey the law, but would not violate the Forest Service standards and guidelines in place to protect the base resource? Did you say that?

Mr. LYONS. What I said, Senator, was that we need the committee to clarify its intent with regard to the standards and guidelines that we operate under, and—

Senator STEVENS. Who establishes guidelines, Mr. Secretary?

Mr. LYONS. They are established through a public process, and promulgated by the Forest Service, after full public involvement.

Senator STEVENS. You would imply that you can ignore the laws passed by Congress, and instead follow the guidelines and standards established by the Forest Service.

Mr. LYONS. Let me be perfectly clear, Senator. We will obey the law.

Senator STEVENS. I would hope that you would obey the law, even though the law may tell you to abandon some of those guidelines and standards.

Mr. LYONS. If this Congress decides to tell us to ignore the standards and guidelines, and, therefore, run the risk of impacting nontimber resources, we will do that.

Senator STEVENS. We do not have to tell you to ignore your guidelines and standards. We just have to tell you to follow the law.

Mr. LYONS. We will do that, sir.

Senator STEVENS. If you determine that those guidelines and standards are inconsistent with the law, I hope we do not have to take you to court to have you follow the law.

Mr. LYONS. Senator, I can assure you that we will execute the law, which is our responsibility.

Senator STEVENS. Since 1987, Mr. Under Secretary, the timber program of the Forest Service has decreased from 12 billion board feet per year to 4 billion.

I think it will be less than 4 billion this year. As you remarked, stumpage on privately held and non-Federal lands has gone up. That would not take a rocket scientist to predict.

Now, you have, however, at the same time, when you have dropped down from 12 billion board feet, to 4 billion board feet, you continue to increase your requests for appropriations. This is the Appropriations Committee.

Why should we give you more money to handle the forest, to produce less timber, when your basic organic act says no national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessity of the citizens of the United States?

Now, Gifford Pinchot, as I understood it, intended that the National Forest would be a yardstick to measure the performance of private timber.

What we are doing now is we have a blockage of timber from the public lands, and now, an excess demand on timber from the privately held lands. That is bringing about an increase in costs to the public for timber. Why do you manage the Forest Service lands that way?

Mr. LYONS. Senator, I want to clarify that one of the primary reasons for the establishment of the national forest system was the protection of watersheds. I think that is indicative of the challenges we face.

The cost of managing public lands has increased considerably because demands for resources from the national forests have similarly grown. We have had a significant increase in demand for recreation resources.

As you know, there has been a significant increase for the protection of fisheries resources. We are coming to recognize the complexities of managing these resources, and as a result, the unit costs of production of timber and other goods and services have increased considerably.

I would point out that the decline in the timber sale program, that you pointed out began in 1987, started with the Reagan administration, ran through the Bush administration, and Chief Thomas and I now have the task of trying to readjust that timber sale——

Senator STEVENS. For your decisions to close the mills in my State——

Mr. LYONS. We have not made decisions to close the mills in your State, Senator.

Senator STEVENS. You have not made those decisions?

Mr. LYONS. Are you referring to——

ALASKA TONGASS

Senator STEVENS. We have had this conversation before. I am not going to have it here again. Let me tell you, you have requested a \$20.8 million increase for a stewardship for State and privately held lands. You have requested \$23.4 million less for timber prepa-

ration from the national forest. Now why, when you know that the demand is out there for timber, that stumpage prices are increasing, the public is paying more for timber to build new houses, and you are putting more and more plugs into the pipeline of timber from Federal lands. Why are you doing that?

Mr. LYONS. Well, I would point out, Senator, as you pointed out, the value of stumpage on private lands has increased; therefore, the demand for timber from private nonindustrial and industrial lands has grown as well.

Senator STEVENS. But that is because you are not producing—

Mr. LYONS. In the State and private forestry program we are doing our best to assure that we can provide assistance to those private landowners so they get the value they deserve in those resources. Now, I will let Gray Reynolds address the specific issues—

Senator STEVENS. I am going to ask the questions, and you will answer the questions. You are not going to tell me who is going to respond to me.

Mr. LYONS. I just want to make sure you can get the most accurate information you requested.

Senator STEVENS. The information I have is already accurate. The problem I have is dealing with this administration. I do not understand where you are going with regard to the forest system.

In 1990, we enacted the Tongass Timber Reform Act, and set aside 17 million acres of southeast Alaska for wildlife habitat, and we left 1.8 million acres to sustain the timber industry.

Now, we have had this argument before. I understand now that, according to a letter from the regional forester to Congressman Young, the forester's annual expenditures have risen 30 percent, from \$88 million, to \$113 million in that forest, at the time that you have decreased production of timber, lost 2,653 jobs, and 44 percent of the entire timber economy.

Now, how do you justify asking us for more money to do less with the Tongass, in terms of meeting the basic—well, I read you the basic law: “* * * to furnish a continuous supply of timber for the use and the necessities of the citizens of the United States.” How do you justify asking us for more money?

Mr. LYONS. Well, Senator, I am not familiar with the letter that Phil Janik sent you; however, I—

Senator STEVENS. He did not send it to me. I said he sent it to Congressman Young.

Mr. LYONS. OK. Excuse me, my apologies. But I am familiar with the fact, as you know, that unit costs of preparing timber sales and other activities have grown.

One of the reasons is to ensure that we do not negatively impact on fisheries resources, which are also vitally important to southeast Alaska, as well as on recreation resources.

We are doing our best to assess multiple impacts of the timber sale program and move forward with the timber sale program.

Given the changes and the status of the one long-term sale contract in the southeast, we are now in the process of developing an independent timber sale program, which has required additional work and investment to retrofit those sales, if you will, to meet the requirements of that independent sales program.

The costs of doing business continue to grow, private sector and public sector, and, therefore, we have requested additional funds so that we can respond to the needs of the citizens of southeast Alaska.

Senator STEVENS. I am talking about Alaska. I am not talking about anywhere else. You have a request for increased money for Alaska, despite the fact that the timber industry is almost non-existent down in my State.

Mr. LYONS. Well, we are going to do our best to provide timber to southeast Alaska, so as to maintain a viable timber industry in that region.

That is one of the reasons for the request for additional funds, so that we can begin the process of preparing this independent sales program to fill the gap that was created when APC shut down.

Senator STEVENS. You would not mind then if I limited the request that the money can only be used for timber preparation and sale.

Mr. LYONS. Well, we have a multiple-use program up there, Senator, and I think it is vitally important that we be able to manage all those resources, and recognize the fact that the timber sale program can also impact on fisheries management, recreation management, and water quality as well.

Senator STEVENS. Well, as I said, your annual expenditures have risen by 30 percent, from \$88 million to \$113 million, and your employment has increased in region 10 despite the fact that timber production and jobs in the industry dependent upon the timber production have fallen off sizably.

Mr. LYONS. Well, Forest Service employment nationwide is down 4,000 and continues to decline. I cannot speak specifically to the situation you are referencing, Senator.

Senator STEVENS. You cannot speak for what the increase in employment is in Alaska in the Forest Service.

Mr. LYONS. I could ask Gray, if you let me.

Senator STEVENS. Sure, I will let you.

Mr. REYNOLDS. Sir, I am not aware of an increase in numbers of people working in the Alaska region of the Forest Service, but I have not looked at that figure. I am not aware of it, but I will certainly go back and find the information and get back to you.

[The information follows:]

FULL-TIME EQUIVALENTS

Person year Full-Time Equivalents (FTE's) for the Alaska Region, Region 10, of the Forest Service since 1990 are as follows:

Person year:	Full-time equivalent
1990	872
1991	911
1992	1,015
1993	1,036
1994	1,045
1995 allocation	1,118
1996 allocation	1,113

The present target for 1999 is 1,032.

APPEALS PROCESS

Senator STEVENS. Well, I suggest that you look at Mr. Janik's letter to Congressman Young. Let me ask you about your appellant process. The Senator from Vermont was talking to you about that.

The Corps of Engineers had about the same problem you have had, you have tied up a sizeable portion of the forest in the appeals process, only to find that the bulk of the people who appeal within your system then go on to court.

Why do you not just have the same provision that the Corps of Engineers has, of allowing contested decisions to go directly to court, without tying up your manpower within the Forest Service?

Mr. LYONS. Senator, I am not certain that your statement that the bulk of those who appeal go to court is correct, based on the—

Senator STEVENS. Well, why not provide us those statistics for the record, will you—

Mr. LYONS. I will be glad to do that, Senator.

Senator STEVENS [continuing]. The number of appeals within your department pertaining to forest sales now. We are talking about availability of timber.

You have a lot of decisions that affect recreation, watersheds, other things, but I am talking about the availability of timber. It is my understanding that the bulk of the appeals directed toward timber sales automatically go to court.

Mr. LYONS. Well, we will take a look at that, Senator. I think the other point I want to make, though, is, again, we have an appeals process that was actually legislated in the 1993 appropriations bill, and we are implementing the law to put that in place.

It was a bipartisan effort to develop that appeals process, and I think the proof is that it has worked fairly well, certainly compared to our previous appeal system.

Senator STEVENS. I think you would find in Alaska that there has not been one decision that has not gone on to court that affected timber sales.

Mr. LYONS. Well, as you know, Senator, Alaska is a unique area in terms of controversy about the timber sale program in southeast Alaska. We both fought our way through that.

[The information follows:]

LITIGATION

The Forest Service has no federally legislated authority to deal with administrative appeals in the same manner as the U.S. Army Corps of Engineers. Appeals of projects which implement approved forest plans must follow the process established by Congress in Section 322 of Public Law 102-381, and as codified in 36 CFR 215.

The bulk of the appeals directed toward timber sales do not automatically go directly to court. Approximately 2 percent of the timber sales decisions appealed under current regulations have gone on to litigation since the regulations went into effect in January 1994.

MARKET DEMAND

Senator STEVENS. I do not see you fighting with Alaska toward getting more timber available in southeast Alaska, Mr. Secretary. If you did, I would not feel the way I do about this administration.

The President's budget calls for 320 million board feet for Alaska. We had a decision in the Tongass Timber Reform Act that the For-

est Service would prepare and we would fund to meet demand, meet market demand for timber from the Tongass.

Have you prepared market demand studies for this year?

Mr. LYONS. I do not know that I can address that. I will find out for you, Senator.

Senator STEVENS. Well, what are you doing here then? You are here for money to finance the operations under the law, and you should have a market demand figure for us. We have had them in every hearing before.

What is the market demand for Tongass, as computed pursuant to the Tongass Timber Reform Act?

Mr. LYONS. I will ask Gray to address that.

Mr. REYNOLDS. Our program level was 320 million, and that was very close to the demand figures.

Senator STEVENS. Do you have a demand figure? Did you go out and do a survey of demand of timber from the Tongass?

Mr. REYNOLDS. As part of our forest planning process, those demand figures are pulled together as one of the elements in the forest plan.

As you know, we are in a revision situation. With the current demand, I do not know that there has been a market demand survey as of now.

Senator STEVENS. Let me tell you, the agreement we entered into in the Tongass Timber Reform Act was that we did away with the 450 million board feet per year, in exchange for a provision in the law that said the Forest Service would determine the demand for timber, and if the timber demand exceeded 450, you would request it. If it was less than that, we would go along with it.

Since the Tongass Timber Reform Act, the Forest Service has never asked to prepare timber to meet demand from the forest.

But this is the first year I know that you have ever come before us without having a survey, at least what amounted to a survey, to determine what was market demand. I think, again, it just shows that you ignore the law.

Now, to me, it is a very difficult thing to try and deal with a situation where the Forest Service just will not obey the law. We have a loss, as my figures said, that was over 7,000 jobs—well, Mr. Janick's figure shows 4,500.

STRAY CAMERA

That camera is your camera.

I have sat at this table now for 25 years concerning the Forest Service, and I have never seen a camera paid for by funds appropriated by the Forest Service in hearings pertaining to operations. What is it doing in here, and what are you going to do with it?

Mr. LYONS. I did not request that camera, Senator. Someone else will have to enlighten me on that. I thought it was your camera.

Senator STEVENS. I implied that it is yours. I do not know what it is for. What are you going to do with that camera, and the film for it?

Mr. THOMAS. I suspect that that is part of a training film that we use to train people to be able to testify appropriately before Congress, to be good at what we do, to respond fully, to see some vision of what goes on, to train our people in the field about the

democratic process, and what Senators and Congressmen expect of us. If that is our camera, I think that is what it is doing.

Senator STEVENS. But I cannot remember at anytime in the history of my service that any government agency has come up and filmed a session of Congress for internal use. If you want to train your people, Chief, I would suggest you train them by bringing them here.

Mr. THOMAS. Senator, I have seen a number of such training films myself, and have been trained using those films in the past.

Mr. LYONS. My apologies, Senator. We should thank you for being willing to participate in our filming.

Senator STEVENS. I am not willing to participate. I think we ought to be asked before the camera is brought in here.

Mr. LYONS. Well, that is why I apologized, Senator. I did not realize it was our camera, but I want to thank you for participating.

Senator STEVENS. I have a series of questions that I will submit even though that does not do any good. I have not met a portion of the Government that is as unwilling to follow the law passed by Congress to the extent that these people do in the Forest Service Administration right now.

My State is completely devastated because of their decisions in southeastern Alaska. Although, I will say that this is the first political comment I have ever made in this committee. I have said before, they are electing more Republican Senators than any group I have ever seen in my life. Thank you very much.

Senator BENNETT. Thank you, Senator.

I hope you get all of your residuals from the television program when it airs.

We have 15 minutes before we have votes.

Senator Hatfield arrived next. Senator Bumpers probably wants some time as well. So I just notify both Senators, that is the deadline we are up against. Senator Hatfield, you are recognized.

Senator HATFIELD. Mr. Chairman, I would be happy to submit my questions for the record, and I would be happy to yield to the Senator from Arkansas.

OUACHITA EXCHANGE

Senator BUMPERS. Mr. Chairman, I will be very brief. I would like to say something nice about the Forest Service.

Senator BENNETT. They probably would like to hear it.

Senator BUMPERS. This training film ought to prepare all of your future appearances here. Chief Thomas, No. 1, several years ago I found that Weyerhaeuser wanted to dispose of a lot of land in Arkansas, and I undertook to get \$2 million, \$3 million, or \$4 million a year to buy that land for the Forest Service, principally to protect against development on Lake Ouachita. It is a magnificent lake and relatively pristine.

Over the past 6 years, the Forest Service, with the money I have been able to get each year, has been able to acquire almost 40,000 acres as an addition to the Ouachita National Forest.

Second, I flew over that area, not because of the lands we bought, but because of this land exchange between the Forest Service and Weyerhaeuser that they have been working on for a couple of years, and for which I have a deep and abiding interest.

It is not without controversy. But I flew over all that land the other day, and the Forest Service stands to obtain 100,000 acres more than they are giving up.

Now, they are giving up some pretty good land, but among other things they are getting in Arkansas, for example, 25,000 acres that would go to the Fish and Wildlife Service for a national wildlife refuge.

I want to make two points, No. 1, the lands you purchased were absolutely perfect selections. I flew over a lot of that 40,000 acres, and it was easily the most beautiful part of the forest I saw.

Most of it was pine plantation. I do not mind telling you that I detest pine plantations. And most of it was pine plantations, both on Weyerhaeuser land and Forest Service lands.

Now, you do not do that any more, but you still have a lot of pine plantations you planted before we stopped you from doing that. I just want to say that the choices you made and the lands you selected to buy could not have been better.

Second, I would like, because I am going to introduce a bill here sometime in the immediate future, to consummate this land exchange, at least for hearing purposes.

I would like it very much, Chief, if you and some of your foresters could go down there and do what I did about 3 or 4 weeks ago, and that is fly over all that area of southwest Arkansas and southeast Oklahoma that is involved in this land exchange. Your final decision on it is going to be key as to whether we are able to consummate this or not.

I am of the opinion right now, after that trip, that this land exchange probably should be made, but as you know, we have had some problems with mineral rights that have not been worked out yet, and maybe a couple of other lesser issues.

Do you think there is any possibility that you might be able to do that some time?

Mr. THOMAS. Go look at it?

Senator BUMPERS. Yes.

Mr. THOMAS. If you want me to look at it, I can certainly arrange to look at it. Yes, sir.

Senator BUMPERS. Well, I am not going to insist that you spend a day going down there and looking it over. You are a very busy man, but we are talking about a couple of hundred—

Mr. THOMAS. Yes, sir; I would like to look at it. In the meantime—

Senator BUMPERS. It is 150,000 acres. That is not beans in my neck of the woods. It may be in Alaska, but it is not in Arkansas.

Mr. THOMAS. I met with the Weyerhaeuser people last week, I believe, and our lands people. I believe we are right down to the last set of negotiations which deals with the mineral reserves and how we deal with the mineral rights.

I think we are very close to a mutual agreement that everyone will be happy with. I think everything is proceeding on course. I have not heard of anything that has popped up recently.

But I would like to go to Arkansas, because the wind does blow sometimes from Texas, and I can smell the blue bonnets.

Senator BUMPERS. We like the wind to blow the other way. [Laughter.]

Mr. LYONS. Senator, I had the pleasure of meeting with Charlie Bingham from Weyerhaeuser's corporate office in Tacoma 2 weeks ago and discussed this very exchange, and committed as well that we would move expeditiously to try to get this resolved.

But I think it is a good exchange for the taxpayers and for Weyerhaeuser, and certainly for the State of Arkansas.

Senator BUMPERS. Thank you, Mr. Secretary.

COMMUNICATIONS SITES

There is one other point I would just like to make, and that is, for 3 or 4 years I have done my very best to get the Government a fair return for these communications sites that we lease on various mountains that the Forest Service owns.

As you know, study after study has shown that we get not much more than 10 percent of the fair market value for those things.

Has the Forest Service taken any steps lately to improve the management of its communication sites? I understand there are a lot of interlopers that you do not even know about using these mountains for communication sites, repeater stations, and so on.

Mr. LYONS. As you know, we have worked on this issue with the Bureau of Land Management for a number of years under direction from the Congress. We have just issued in mid-1995 a set of regulations dealing with this whole question of fee structure for communication sites.

We would point out that we have been blocked by the appropriations committee from implementing that, but our intent at this point in time is to move forward with the new fee structure for communication sites.

Senator BUMPERS. Do you have a proposed fee structure system?

Mr. LYONS. Yes; we do have. It is a—

Senator BUMPERS. When did you finalize that?

Mr. LYONS. It was issued in the Federal Register in 1995, with billings for 1996 rents due January 1, 1996. So we expect to implement it beginning the first of the year, 1996. That has completed a number of years of involvement with Congress, with the Bureau of Land Management, and a large number of public meetings with users.

Just for your information, let me add one other point, sir. The current dollar returns are approximately \$1.9 million under the existing system, and based on our new schedules, we expect that there will be approximately a \$20 million return, so there is a sizable increase.

Senator BUMPERS. Well, that is a blow for liberty. I have been fighting this one a long time. As I say, there are a lot of interlopers there that have been using those mountains, paying nothing for it.

I think the thing that was most offensive, other than the fact that these were fire sale prices, was the fact that some radio stations and television stations build a tower and turn around and sublet all kinds of antennas to be placed on their tower, and they get more money back than they were paying the Federal Government. I am not sure that the Forest Service has had to approve of those in the past.

In the Los Angeles basin, a TV station pays \$8,149 in annual rent. The appraised value is \$75,000. That is not exactly taking

care of the public concern. I did not realize you had done that, and I appreciate it.

Mr. LYONS. I was just going to say, Senator, I want to point out that we are committed to obtain fair market value for all these situations.

Unfortunately, my first opportunity to meet with the Senate Budget Committee chairman was on this very issue. So as you know, there is a bit of a difference of opinion about how we should manage these sites, and whether or not this new fee schedule should go into place.

Senator BUMPERS. Mr. Chairman, I wonder, do we know from where this camera came? Whose camera is this? The Republican conference? [Laughter.]

Senator BENNETT. OK. Duly noted.

Senator BUMPERS. Thank you, Mr. Chairman.

BUDGET CUTS

Senator BENNETT. Thank you. In the time we have remaining before the vote starts, let me take you to the macro question of the budget. We have been talking about a number of specifics here, and it is appropriate that we do that. But let us come back to the overall budgetary question.

The budget committees are working on agreements to bring the deficit under control, trying to get us to a balanced budget by the year 2002. If they are going to reach that goal, of course, there are going to have to be both real cuts and Washington cuts that take place.

My definition of a real cut is something where you spend less this year than you spent last year. I have learned since being in the Senate that a Washington cut means you spend more this year than you spent last year, but less than you promised to spend the year before.

This goal will translate into a 10- to 20-percent reduction below the Interior Subcommittee's fiscal year 1995 budget authority and outlay allocations.

Now, the Forest Service's proposed 2-percent increase is less than practically all of the other agencies within our jurisdiction, so in a sense, that is good news. You have asked for less than all of your counterparts have.

Nonetheless, the agencies funding level is most likely going to be less than the fiscal year 1995 enacted level. We are going to need your assistance in determining priorities.

I have told this story before, but not here, and I have discovered in the Senate that there is no such thing as repetition. You can say something over and over and over again and it is always considered news.

In my business experience, when I found that our company needed to take some \$300,000 a month out of our overhead if we were to meet our profit goals for the year, because our sales figures were not as they had been projected to be, as the CEO, I did not make any of those decisions as to what would be cut, I turned to the various department heads and told them this is the overall target that we have to meet as a company, now each of you come tell me what you can do in your departments.

A week later they came forward and we put all the numbers on the board, and I said congratulations, you have just taken \$150,000 a month out of our overhead. Now, go back and do it again.

And in about 3 weeks, we took \$300,000 a month out of the overhead of that corporation, and I still do not know how we did it, even though I was the CEO at the time it happened.

I think that is the logical way to do it, instead of this committee saying you will cut this and you will cut that, you tell us what it is you think the priorities ought to be within the constraints that we might give you.

So my question is: If the Forest Service budget level was reduced by 10 percent, and then when you get used to that, or 20 percent, would you recommend an across-the-board reduction or would you target certain programs?

And very specifically then, how would you approach a 10-percent reduction, how would you approach the 20-percent reduction, if the Congress, in its wisdom, were to give you that particular task.

Mr. LYONS. Well, Senator, as, I guess, the equivalent chief executive officer, I work with two agencies and the Department of Agriculture that represent one-half of the employees there, and 20 percent of the discretionary funds of the department.

It is a pleasure to hear that other chief executive officers have similar experiences—do not quite know what happens, but it happens.

We will be glad to work with the committee to make recommendations for priorities under those scenarios. I would personally say that I do not believe in across-the-board cuts.

I think leadership requires that one look at the challenges down the road and make adjustments in programs to respond to those areas that require additional investment, and cut back where the priorities are not needed.

One thing I think I have learned about this effort in public processes is that there are many constituencies represented only partially by the members who participated in this hearing this morning.

We heard some of the priorities of the different members of the subcommittee. Addressing those priorities, while attempting to look at other national priorities, is a challenging task, so I would only ask your assistance and indulgence as we all sit down to identify priorities, that we work together and recognize that with declining budgets we will face a situation where we have to do less.

We will do our best to be as efficient as possible. We have initiated efforts in the Department of Agriculture to realize efficiencies, a reorganization plan that eliminated 13 agencies last year, a reinvention effort within the Forest Service specifically oriented toward finding ways to cut costs to improve management efficiency, and to refocus ourselves on the priorities of the resource challenges we will face in the next century. We will shortly be coming to the Congress with our final recommendations under restructuring that will reduce our administrative overhead, reduce personnel levels, cut the Washington office by 25 percent—corporate headquarters, if you will—and seek to ensure that we have the resources and the expertise we need on the ground to get the job done.

We welcome the opportunity to work with you in setting those priorities for the Forest Service and for the Nation overall.

Thank you.

Senator BENNETT. Thank you. Does anyone else want to comment on that? Probably not. You do not want to disagree with your boss.

As an editorial comment, I would agree that a straight across-the-board cut is probably not sound management. In every organization, there are priorities that can be struck, and to simply say we will cut everything 10 percent is probably not the way to do it.

Mr. THOMAS. Well, in dealing with our budgets that is what is affectionately known as my trademark of no-brainers. That is not going to get it. When we work with these things, that is exactly the way not to do it.

One thing that will be helpful to us, however, is the full recognition of the committee and the Congress and others that we have simply done all the more with less that we can do.

We are going to have to do less with less, and we need a joint understanding that that is what we are going to have to do. We are going to have to cut some things out. We are going to have to do things in a more streamlined fashion.

But in the end, we simply are going to begin to suffer some loss in the quality of our work, and some of the things we will have to do less well. But we need a joint understanding of that, that we cannot perform at the level that we had been performing with less and less and less. Sooner or later we have to do less.

Senator BENNETT. I certainly understand that. I would assume the other members of the subcommittee would as well. We come back to the statement that Mr. Lyons made, there are priorities, there are different constituencies, and one constituency would insist that you would get better results if the work done on behalf of another constituency was stopped altogether.

That is where the Congress, I guess, ultimately has the responsibility, because we are the ones who, for better or for worse, have to face the voters and receive direct accountability for our actions.

This is not to say that you are not accountable, but you are accountable through the secretary, through the President, and his facing of the voters; whereas, our system gives us in the Congress a little closer tie to particular parts of the country and various constituencies, and you see that in the ebb and flow of congressional elections.

RANGE MANAGEMENT

Well, not being philosophical about political science issues, let us move on to some conversation about range management. The range management programs propose to go from \$18.5 million in fiscal year 1995 to \$43.5 million in fiscal 1996, a \$25 million increase, or in percentage terms, 135 percent.

Against the background of the discussions we have just had, this obviously comes up, therefore, as a major priority. This increase would support accelerated rangeland and riparian restoration activities, additional noxious weed control actions, increased range forage improvements, and improve grazing permit administration.

Parenthetically, does this include some of the NEPA problem that we talked about earlier?

Mr. THOMAS. Yes, sir.

Senator BENNETT. OK.

Mr. REYNOLDS. Yes; it does.

Senator BENNETT. Good. The full-time equivalents would increase from 304 to 616 in the two respective fiscal years. Funding shifts to the range program comes at the expense of other programs, particularly the timber program, which the Forest Service previously indicated is lacking funding and professional forestry capability to complete the level of harvest outlined in the President's forest plan for the Northwest and other forest activity.

So the question is: The Forest Service explanatory notes state that rangeland professionals generally agree that public rangelands are in better condition now than they were at the turn of the century.

If the statement in the Forest Service budget justification is correct, why is the Forest Service proposing to go from \$18.5 million to \$43.5 million, and what activities would be funded with the increase?

Mr. THOMAS. I think a large portion of that is the assurance that we have range conservationists of adequate training and expertise to deal with our permittees across the board.

Our range program has been declining in investment and in the number of range conservationists who work with our permittees in a steady decline, for over 10 or 15 years—15 years, anyway. Essentially, our range condition is better; however, that is the good news.

The bad news is that we still have a lot of range condition that needs dramatic improvement. If we do not maintain a good range program, which is a basic responsibility of the Forest Service, with continuous improvement, I think we will be in deep trouble in serving the American people, taking care of the resources, and serving our customers that are permittees over time.

I think I receive more personal complaints about the deterioration in our range program than anything else. Of course, I come out of a background where I did range and wildlife habitat research, so many of my friends are in the range business, but I receive more complaints about our loss of expertise, in terms of our range program, than any other faction that I personally hear about.

Senator BENNETT. At the risk of sounding immodest, I have prepared a video on grazing practices, which I showed to Secretary Babbitt, and which has been widely circulated, in the West, at least, among members of the environmental community, as well as the ranching community.

When you make these comments about improving the range program, I would like you to see the video. Could I send you a copy and have you take a look at it?

Mr. THOMAS. I would be delighted.

Senator BENNETT. The chairman of the House authorizing subcommittee in this area has shown it to all of the members of the subcommittee, and it addresses this question of improving the range through proper management of cattle.

The bottom line of the video is that properly managed cattle are good for the land, and those who think the best way to deal with

it is to get the cattle off the land, in fact, in our part of the country, are damaging the land, because cattle improve the watershed.

They improve wildlife opportunities by virtue of the hoof action creating reservoirs, however small, maybe, in many cases, only the size of a single hoof, but water reservoirs to catch the scarce water and provide area for seedlings, so that you get better range, rather than less, if the cattle is properly examined, at least in the BLM case. I have not looked at the Forest Service.

In the BLM case, ironically, the best range for the environment is private range that is managed in this way, and the place where you get desertification, return of the land to desert, and the drying up of grasses comes on the public land, where they cannot get a waiver to do the kind of range management we are talking about.

So if I may, I would send you a copy of this video and ask you to take a look at it.

Mr. THOMAS. I would be delighted to see it. My own background is much concerned with that. I think that perhaps is a little simplified, but I understand your point.

Senator BENNETT. Yes; I concede immediately that it is a simplification.

What are the employment plans and the process for the Forest Service doubling its range management work force? What job categories are required to implement those proposals, and what recruitment are you going about? Is that strictly the soil conservationists to which you were referring, or are there other specialties?

Mr. REYNOLDS. It is a combination. First of all, we look at a range conservationist as one of the principal specialists. It is among range conservationists that we have seen the real turnover in the last few years for many in the agency—a full career here or taking a buyout. But they also work with hydrologists, ecologists, and fisheries biologists.

As we look at important riparian areas and your comments about improving the range—you are absolutely right, but in a lot of the country, particularly the dryer country, it is those bottomlands that get hit the hardest, and that comes down to how we develop the grazing system, and how those livestock are managed while they are out on the land.

And that is the key resource that we are concerned about in States such as Utah.

Senator BENNETT. Well, again, I will not get into the details of what we treat in the video. The best way to solve the riparian problem is to keep the cattle moving, so that they do not stay there for long periods of time.

The range practices I have seen when I have been out in the national forest with national foresters from Utah is that occasionally the cattle are put in an area and then left for 30 days, and no one makes an attempt to make sure they stay away from the riparian area.

If you keep them moving through and not being in an area for more than 4 or 5 days, your riparian problem goes away.

RANGE EXPERTISE

Mr. REYNOLDS. Yes; my experience is that beginning about 12 or 13 years ago, we began to lose capability and working relationships

in some areas where in prior years we had established strong grazing practices, where the cattle were moved.

And as the budgets began to decline, we took less time in administration of those permits. So what you say is exactly right.

Mr. THOMAS. I think the thing we see, Senator, more than anything else, is that range management is not an exact science. It takes a lot of brain power, and it takes a lot of cooperation between our permittees and us.

There is where we are beginning to slip: those people that we have that are capable of dealing with permittees on a continuing basis, or their neighbors talk their language, know what the situation is, and that takes some experience.

It takes some expertise, and we are losing that, and we have to rebuild it. If we cannot rebuild it, I fear for our program, and I fear for the land. But we want to rebuild that. Those are valuable customers. This is one area that I wish Senator Burns was here to address.

I am also a wildlife person by background. Through the west we have private landowners who provide winter range for big game, and say very little about it—just an unsigned contract in exchange for their public land grazing.

It is important that we consider that private land-public land interaction. We cannot consider them separately. They go together. And that is a perfect example of what we are talking about in ecosystem management: people, and money, and management, and how those things all fit together to make a viable system.

ADDITIONAL COMMITTEE QUESTIONS

Senator BENNETT. I would like to pursue this, and maybe we will, at some point, but the bells are ringing, and the vote is demanding. So Mr. Lyons, we thank you for your testimony.

The subcommittee members will have additional questions for the record. We would appreciate receiving the responses as promptly as possible, within the next several weeks, if we can.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

FOREST RESEARCH

Supplemental information which displays the distribution of research funds by research station, State, and project indicates that the funding for the eight Research Stations are to remain relatively stable. However, the Washington Office is targeted to increase by \$3.2 million.

001. Question. Why is the Washington Office proposed for a \$3.2 million increase? For what would the increase be used?

Answer. The State Sheets reflect the Washington Office (WO 9999) at the FY 1995 level of \$16.168 million and the FY 1996 at \$19.355 million. This is not an increase to the Washington Office for administration purposes. \$1.7 million of this is for long term ecosystem research studies which will be selected and distributed to the field using a competitive process. The funds were shown in the Washington Office costs because the selection process has not been completed for FY 1996 studies. The balance (\$1.5 million) is held in the Washington Office to fund the Research share of the Project 615 computer licensing fees and costs of implementing reinvention.

002. Question. As part of the agency's reinvention process, the Washington Office will be restructured to improve productivity and operational efficiency. How will the Washington Office Research organization be affected? Is the Research deputy area expected to reduce 25% as other Forest Service deputy areas? If not, why and what is the Washington Office Research reduction goal?

Answer. Under the Forest Service reorganization plan submitted to the Secretary of Agriculture, Forest Service Research headquarters personnel would be reduced from 77 FTEs in FY 1992 to 55 FTEs, a 28.5% reduction. Presently, there are 58 FTEs on board. After reorganization, Research would have 38 professional, 11 administrative, and 6 clerical FTEs. This reorganization would: combine the present seven staffs into four to more effectively oversee current and future research programs, reduce the cost of operating the Washington Office, and maximize the efficiency of a limited scientific staff.

003. Question. The WO Research holds the national program commitments for distribution during the year. What are the FY 1995 national program commitments, how much are each of them, and what is the field distribution?

Answer. Below is a table displaying the FY 1995 national commitments that include research funds and the amounts which were sent to the field versus those retained in the Washington Office. Following the table is a short explanation on each national commitment.

FY 1995 National Commitment Proposals
(M Dollars)

National Commitments	1995 Final Budget	Research Funding Share
Buyout Head Tax	3,000	260
Customer Service	325	7
Emerg. Obligations	2,400	212
MAPS	1,750	152
National Forest Foundation	1,000	50
National Info Center	150	44
National Tree Seed Lab	292	69
Natural Res. Education	1,155	104
Pinchot Institute	1,813	230
Performance Measures	100	8
Project 615	5,400	468
Recruitment & Outreach	3,728	994
Research Natural Areas	440	220
SES Candidates	300	26
Sierra Ecosystem Study	2,150	538
Strategic Communication	175	4
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Total	24,178	3,386

FY 1995 Approved National Commitment
Project Descriptions

Buyout Head Tax - To offset the cost of buyouts to the retirement fund, all agencies will pay \$80 to the fund for each employee covered by FERS or CSRS on March 31 of fiscal years 1995 through 1998. The payment is incurred March 31 each fiscal year and will be paid from funds available for payment of the basic pay of the employee. These payments are required regardless of whether the agency has taken part in the buyout program, so are unrelated to the buyouts in a particular unit.

Customer Service Plan - The President's Executive Order on "Setting Customer Service Standards" directs all agencies of the Federal Government to develop and implement a plan to improve service to customers. Specifically, it calls for each agency to 1) develop and post standards and measure results against them; 2) Survey all customers to determine their level of satisfaction; 3) train all employees to better respond to customers; and 4) Establish a system to effectively deal with customer complaints. This agenda is the central focus of the Vice President's "Reinventing Government" Program. The performance of each agency will be gauged foremost by how well they improve customer service.

Emergency Obligations - Approved by the Chief on a project by project basis, these funds cover unforeseen, high priority needs throughout the fiscal year.

MAPS - Modernization of the Administrative Processes and Accounting Systems. Under the leadership of the Assistant Secretary for Administration and in partnership with the Chief Financial Officer, MAPS and the Foundation Financial Information Systems project are expected to provide reliable and credible

financial management information, better demonstration of meeting legal and regulatory requirements, easier access to cost data, and enhanced natural resource decisionmaking. Immediate investments are needed to develop both interim and long term solutions. The Forest Service has been, and will continue to be, in close partnership with USDA's MAP Office and the Office of Finance and Management (OFM) in implementing this Department-wide initiative to modernize the administrative processes (MAP) and accounting systems.

National Forest Foundation - The National Forest Foundation Act of 1990 established a charitable, nonprofit corporation to be headquartered in the District of Columbia. The purposes of the Foundation are to encourage and accept donations and gifts for the benefit of the Forest Service; conduct activities that further the purposes of National Forest and National Grassland management; encourage educational and other assistance that supports multiple use, research, cooperative forestry, and other programs administered by the Forest Service; and to promote cooperation among the Forest Service, the private sector, and other governmental and educational institutions.

Information Center - A Forest Service Information Center has been established to provide information and interpretive services to visitors about the Forest Service and its programs. Located in the Auditor's Building, visitors can receive flyers, brochures, maps, etc. on various Forest Service programs and the National Forests.

National Tree Seed Laboratory - the Lab serves as a source of technical assistance for all aspects of forest tree and shrub seed production and utilization, to provide seed-testing services, and to serve as a seed bank for national and international research needs.

Natural Resource Conservation Education Program (NRCE) - The NRCE program promotes the understanding of natural resources and ecosystems--their interrelationships, conservation, use management, and value to society through structured educational experiences and activities. The Forest Service, in partnerships with State Foresters, educators and others, helps people, especially youth, understand and appreciate our nation's natural resources and how to conserve those resources for future generations. The program complements existing Federal and State programs and strengthens partnerships among State, non-profit, and Federal education organizations. The NRCE program provides public educational opportunities in natural resources, ecosystems, and improvement of the environment.

Corporate Program Performance Measures - The need for the Forest Service to critically examine its existing performance measurement system was discussed by Chief and Staff on June 27, 1994. It was decided that, in order to strengthen its ability to assess its performance and to share this information with its employees and the public, the agency should undertake a study to: (1) design and develop a corporate performance measures conceptual framework -- i.e., a performance measurement system and initial set of performance measures; and (2) specify, implement, and re-evaluate the chosen conceptual structure. To help ensure that the leadership of the Forest Service has a high quality corporate

program performance measurement system and meaningful performance measures, one or more nationally recognized experts on performance measurements will be brought in to work with members of the Washington Office Policy Analysis Staff on a temporary basis.

Pinchot Institute for Conservation Studies - The Pinchot Institute for Conservation Studies is a special unit of the Forest Service located at Grey Towers National Historic Landmark in Milford, Pennsylvania. Grey Towers was the home of Gifford Pinchot, pioneer conservationist, founder and first Chief of the Forest Service, and Governor of Pennsylvania. The Northeastern Area, State and Private Forestry, administers the Pinchot Institute and Grey Towers. Part of the funding approved for Pinchot in FY95 will be used to support emergency repairs (maintenance) needed to reduce the rate of deterioration, and for long-term restoration of Grey Towers.

Project 615 - Funding for this project provides support for the Project 615 Pilot Year that covers software maintenance, technical support, and pilot year support. Pilot year support includes all implementation and testing activities associated with Project 615 pilot year efforts at field sites and in the WO. The funds provide for preparing, analyzing, evaluating, and testing specific network configurations and Geographic Information Systems (GIS), as well as for reporting results to the General Accounting Office. These activities implement an agreement between the Forest Service and Congress to resolve General Accounting Office concerns. In addition, funding is provided to support three Centers of Excellence: (1) Open Systems Environment Lab in R-1; (2) National Applications Repository in Region 8; and (3) National GIS Coordination (location yet to be determined).

Recruitment and Outreach - In November 1993, the Servicewide Recruitment Coordination Board met to review and evaluate proposals for Servicewide Recruitment Initiatives under a strategy set forth in Associate Chief's Taskgroup report "Outreach and Recruitment, A Servicewide Strategic Plan." The Board recommended going forward with five initiatives. The recruitment Board's recommendations were approved by Chief and Staff in the Spring of 1994. The five initiatives approved for implementation and funding in FY 1995 are: 1) 1890/HBCU Initiative (continuing) - Tuskegee, Alabama A&M, Florida A&M, 1890 Scholars, and BCUCP; 2) American Indian Initiative (continuing) - Haskell Community College and the Consortium of Tribally-Controlled Colleges; 3) Hispanic Association of Colleges and Universities (HACU) (continuing) - USDA HACU Leadership Program, Hispanic serving institutions, MORE Project, Commencement 2000; 4) Asian Pacific American Initiative (New) - University of California; and 5) Gallaudet University (New) - Persons with Disabilities Initiative.

Research Natural Areas (RNA) - Supports the establishment of, and research in, Research Natural Areas (RNAs) on National Forests and Grasslands throughout the United States. Research Natural Areas contribute to better management of our nation's forests through research on undisturbed areas to understand their structure, function and process; compare these areas to human-impacted forests; and collect and monitor baseline data to observe long-term changes. The RNA program contributes to implementation of ecosystem management by providing an extensive system of reference

areas for comparison with managed lands. They also provide information for revising Forest Plans.

SES Candidate Development Program - This is an executive development training program designed for GS 14s and 15s to develop the competencies necessary for leadership in a changing environment. Candidates completing this program will be certified by the Office of Personnel Management in order to compete for future Senior Executive Service positions. The objective is to attract and retain highly competent executives and to ensure continued high quality leadership that will move the Forest Service in the direction of meeting today's goals and tomorrow's visions.

Sierra Study - Congress directed the Forest Service to complete a scientific review of the remaining old growth in the national forests of the Sierra Nevada in California and a study of the entire Sierra Nevada ecosystem by an independent panel of scientists. The study was authorized in the FY 1993 appropriation bill and is assigned to the Pacific Southwest Forest Experiment Station with support provided by Region 5. It should be completed in FY 1995.

Strategic Communication Plan - Supports training, internal and external surveys and polls, and provides for specific nationally directed projects to implement the National Strategic Communication. Implementation of the plan is expected to promote clear, consistent and coordinated messages that support the Forest Service mission and respond directly to the needs of employees, customers/owners and the Department. It supports the priorities of the Under Secretary for Natural Resources and Environment, as well as the current Forest Service direction provided in "The Forest Service Ethics and Course to the Future." All national office communication plans will reflect goals and objectives set forth in the Strategic Communication Plan. All communication plans and communication products will be monitored for effectiveness in achieving goals and objectives. Outcomes will be measured for accomplishment.

004. Question. What are the FY 1996 national program commitments, how much are each of them, and what is the expected field distribution?

Answer. The national commitments for FY 1996 are currently being reviewed. The approved list is expected in July. The FY 1995 approved national commitment list was used for projecting the FY 1996 estimate. Until the projects are known it would be difficult to project what the amounts are that would be distributed between the field and WO. We will make every effort to maximize the amount of funds to the field units.

FOREST RESEARCH BUDGET RESTRUCTURING

005. Question. The FY 1995 Appropriations bill consolidated the six Forest Research budget line items into the three budget line items as reflected in the Explanatory Notes (budget justification). Is a further reduction desired? If so, what would the Forest Service propose?

Answer. Yes, further reduction is desired. Reduction to one budget line item is proposed. This would allow us to more effectively manage the Forest Service Research program.

006. Question. What would be the advantages of reducing the number of budget line items? What would be the cost savings?

Answer. Consolidation of the Forest Research budget line items would give us the capability and flexibility to better accomplish our mission. Administrative efficiencies would be gained in budget preparation. Program effectiveness would be strengthened through support of integrated, multi-disciplinary science necessary for solving complex natural resource management problems. Consolidation would also allow Research to address USDA, OMB and Congressional concerns regarding unnecessary complexity in the current Research budget structure.

The present line item structure imposes an artificial structure that evokes misunderstanding of how funds support integrated research activity. This artificial structure requires significant administrative time for interpreting and displaying the budget. Additionally, our customers are having a great deal of difficulty understanding what we are doing with our funding because they cannot easily track the research relative to their needs by the current line items. A single line item will allow us to more effectively manage, differentiate, display, and accurately meet the benefitting function of the Forest Research program. Significant gains will be provided in curtailing administrative time currently required for interpretation of the budget by multiple line items.

Specific cost savings have not been estimated, but considerable time and effort should be saved in procedures required to allocate, account for, and track separate budget line items. This should result in efficient use of time for other activities.

007. Question. What amount of the ecosystems research budget line item is considered foundation research and what amount is considered forest resources and management research?

Answer. By definition, research in the ecosystems research line item is not considered to be in other line items. It is unique because it addresses large scale ecosystem or landscape scale problems which are very difficult to solve. Researchable questions which fall within these landscapes or ecosystems are often the same or similar to those questions which are studied under the foundation or forest resources and management line items. For example, T&E species are categorized as a national problem under the forest resources and management line item. However, when we established a landscape study funded by the ecosystems research line item, we could not exclude the T&E species that fell within the this landscape and then fund the part of the study associated with these species under the forest resources and management line item. This precisely points out the difficulty and inefficiency in appropriating funding for forest research under more than one line item.

STATE AND PRIVATE FORESTRY

The President's Budget for State and Private Forestry is proposed at \$187.5 million, an increase of \$26.5 million (16 percent) from the FY 1995 appropriation. Within the increase, \$20.8 million is proposed for the forest stewardship program and the stewardship incentives program. This increase is designed to expand technical

assistance and multi-resource management practices in support of ecosystem management on nonindustrial private forest lands, which are experiencing dramatic increases in timber harvesting and declines in reforestation.

008. Question. This program seems to be a higher priority than the Forest Service's timber program since it is proposed for a 47 percent increase while the agency's timber program funding and targets decrease. Is this correct?

Answer. The Forest Service has fewer dollars to meet increasing demands. In order to face the budget situation and handle these demands to the extent possible difficult reallocations had to be made. However, the timber program is still the largest program in the Forest Service budget when you include all its parts, e.g. timber sales, road building and salvage sale fund costs. The difficult reallocation does include increases in the forest stewardship and stewardship incentives programs as you stated. Changes in federal management has shifted pressure to private forest landowners to meet strong national and international demand for timber. Without our agency assistance, the multi-resource capability of these lands could be impaired.

009. Question. The nation's reliance on private timber lands has been on an incline as public timber lands have become unavailable. Why are stewardship funding levels a high priority in FY 1996 and they were not in past years?

Answer. The nation has become increasingly reliant on timber from nonindustrial forest lands with the decline of available timber from National Forest and other federal lands. Private timber lands comprise a full 83 percent of the nation's timber land of which the majority (59 percent of the nation's timber land) is in private nonindustrial holdings. Nonindustrial forest lands also account for nearly half (49 percent) of the nation's timber harvest. Industry lands provide 33 percent of the harvest, National Forests account for 12 percent and other public lands provide 6 percent. Industrial forest lands are traditionally well managed and producing near to capacity. Nonindustrial forest lands are traditionally the least managed and have the potential for greatest gains in productivity to meet the nation's timber supply needs.

The Forest Stewardship program provides technical assistance to nonindustrial private forest landowners to manage their forests for multiple resources, including timber production. Given the key role of private nonindustrial forest lands in terms of the nation's future timber supplies, and the decline in available timber from federal lands, the Stewardship program has increased in importance.

010. Question. What funding levels for the forest stewardship program and the stewardship incentives program were requested by the Forest Service to the Department of Agriculture?

Answer. The Agency requested \$26,872,000 for the Forest Stewardship Program and \$21,000,000 for the Stewardship Incentives Program.

011. Question. In looking at the FY 1996 budget history table, it appears that the stewardship programs were increased at the expense of federal and cooperative forest health programs. Is that correct, Mr. Lyons? Please explain the rationale behind the adjustment to the agency's request.

Answer. No. The funding level proposed in the President's Budget for stewardship programs does not equate to a direct reduction in the funding level proposed for forest health management programs. The President's Budget reflects the Administration's priorities for all Forest Service programs. In some cases, program funding is proposed at a level higher than that proposed in the Agency Request, in others, funding is proposed at lower levels. In all cases, the President's Budget balances different areas of necessary agency programs and is based on the priority of individual State and Private Forestry programs among all Forest Service programs.

As explained earlier, the allocations for the Interior Subcommittee are likely to be 10 to 20 percent below the FY 1995 levels. Each agency will be affected by reductions as we move toward a balanced budget by 2002.

012. Question. If State and Private Forestry were reduced 10 or 20 percent below the FY 1995 enacted level, would you take an across-the-board reduction based on your FY 1996 submission? If not, how would you set your priorities and what would they be with a 10 percent reduction and a 20 percent reduction?

Answer. Reductions in program funding would not be taken across the board; however, all programs would be significantly affected. At both the 10- and 20-percent reduction levels, we would set priorities that address the health of the nation's forests and continue to provide assistance to nonindustrial private forest landowners.

INTERNATIONAL FORESTRY

The FY 1996 request for the International Forestry appropriation is proposed for a 43 percent increase, going from \$7 million in FY 1995 to \$10 million in FY 1996. Congress is currently working on the FY 1995 Rescission bill, which contains a \$1 million rescission in the House version and a \$3 million rescission in the Senate version.

In your budget justification, it is stated the Forest Service has two strategic goals for international cooperation: (1) the advancement of sustainable forest management in the United States; and (2) the promotion of sustainable forest management in other countries that also benefits the United States.

013. Question. Please explain what both of these goals mean.

Answer. Sustainable forest management, both in the U.S. and in other countries, is critical to the economic and environmental security of the United States.

Global trade in forest products is \$100 billion per year. The U.S. is the world's largest importer of wood. We export \$18 billion of

wood products each year, and this figure is rapidly increasing. The global economy for forest products is directly dependent upon healthy forest ecosystems in the U.S. and in countries which are our major trading partners.

Forest area in the United States has increased over the past half-century. Broadly speaking, this is due to improved forest management across all categories of land ownership in the U.S. This is not the case in many other countries, and there is a growing international movement to ban the trade of forest products in order to "save the world's forests." This movement is gaining momentum in Europe and among environmental groups in the U.S.

The Forest Service is a major voice in opposition to this movement and in support of economic incentives for sustainable forest management. In many instances, a ban on trade would create a dis-incentive to manage forests properly. The Forest Service opposes the non-sustainable exploitation of forest resources in any country. In recent years, forests in Brazil, Indonesia, Mexico, and Russia, which account for almost half of the world's forest resources, have been deforested at rates which cannot be sustained. Each of these countries is a major trading partner of the United States. The Forest Service is having dramatic success in working with these countries to implement sustainable forest management practices in a free market framework.

The United States is linked to the rest of the world through trade, the environment, communications, science, and technology. The United States cannot practice successful forestry in isolation from the rest of the world. The long-term health of American forests and the American economy depends on sustainable forest management in the United States and in other countries.

014. Question. The Forest Service lists international forestry on its high priority list in the budget justification while timber sales management is proposed for a \$23 million decrease. Why are the international forestry activities higher priority than domestic timber program?

Answer. The President's budget request for forestland management is \$214 million. The President's budget request for international forestry is \$10 million.

The magnitude of this difference indicates the overwhelming commitment of the Forest Service to the management of national forest lands. However, domestic economic, trade, and forest management policies are influenced by international forest policies, both U.S. and foreign. It is in the interests of the United States to remain active in the international arena while conducting a strong domestic program.

The priority request for a modest increase in the international forestry appropriation will strengthen the domestic timber program by promoting a level playing field for U.S. forest products exports and imports with strategic trading partners, including Brazil, Mexico, Indonesia, Russia, and Canada. The Forest Service has developed partnerships with each of these countries, emphasizing ongoing consultations on forest policies and strengthening each country's commitment to and institutional capability to advance sustainable forest management.

In addition, the ability to produce quality timber in the United States directly depends on the health of our forests. By working internationally we can better control exotic forest pests and diseases before they enter the United States and become a problem. For example, Animal Plant Health Inspection Service (APHIS) and the Forest Service (FS) have jointly helped Russia carry out a survey program to detect the next outbreak of Asian Gypsy Moth (AGM) so that it might be controlled and/or restrictions put on the movement of ships from infested ports and thereby reduce the threat of future AGM introductions to the U.S., preventing potential losses of over \$3 billion in U.S. forests. As another example, many of the most successful commercial tree species in the U.S. were developed in other countries and imported to the U.S. with Forest Service assistance.

International forestry and domestic forestland management are complementary programs.

015. Question. What percentage of the international forestry account is spent on travel?

Answer. In 1994, 10 percent (\$675,000) of the funds appropriated for the International Forestry appropriation were spent on international travel. A similar trend is evident in 1995.

Last year's budget justification stated that the Forest Research, National Forest Systems, and State & Private Forestry appropriations also support international forestry. That statement appears to be deleted from the FY 1996 request.

016. Question. Are other appropriations supporting the FY 1996 international forestry program? If so, what is the justification for the supplemental funding?

Answer. In 1990, with strong bipartisan support under the leadership of President Bush, Congress directed the Secretary of Agriculture and the Chief of the Forest Service to provide support and assistance for forestry and natural resource activities outside the United States to promote sustainable development and global environmental stability. The planning, coordination, monitoring, and evaluation of the international program is funded by the International Forestry appropriation.

The appropriations for Forest Research, National Forest Systems, and State and Private Forestry will continue to be used to support work on domestic problems. This work is driven by domestic priorities, but it cannot be performed effectively in isolation from the rest of the world. While the Forest Service is the leading natural resource agency in the world, it is not the only such agency. Significant forest science is being conducted in other countries, and the Forest Service would not be doing its job if we did not obtain the best available technology or data to solve problems in the United States.

When Forest Service employees carry out work in cooperation with other countries, their salary costs are usually charged to the budget line for the work that is being done. The exception would be instances where cooperators or other federal agencies, notably USAID and the Peace Corps, reimburse the Forest Service for work

which they request. Field units were directed by Chief Robertson to implement this policy in 1991. This direction was confirmed by Chief Thomas in 1994. This policy is consistent with sound financial management and with direction from Congress.

017. Question. What funding levels of Forestry Research, National Forest Systems, and State & Private Forestry accounts are planned for FY 1995 international forestry activities? How many additional FTEs are associated with this funding? For FY 1996?

Answer. None of the funds in these appropriations are budgeted for "international forestry activities" in 1995 or 1996. The Forest Service does not have a system for budgeting or accounting for dollars or FTE's as "international" vs. "domestic," with the exception of foreign travel. The Forest Service uses the budget object classification system mandated by OMB for use by all federal agencies, which does not classify "international" expenditures or FTE's as a separate category.

Of the \$7 million provided in the FY 1995 Interior Appropriations bill, \$2.3 or 33% is to be managed by field units. Within the field unit area, "sister" forests are to work on unspecified projects with the governments of Argentina, Mexico, Indonesia, Mali, Panama, etc.; the Gould's turkey is to be introduced from Mexico to the United States; Indonesia is to receive technical assistance to develop nature-related tourism; the Northeastern Area office is to provide forest health monitoring in Kenya and Eastern Europe; firefighting training is being provided to various countries. This is just a sampling of 50 projects and programs that are planned for FY 1995.

018. Question. What work will be performed by the sister forests?

Answer. An annual program of work is developed by each sister forest partnership designed to carry out the objectives that are spelled out in a formal agreement between the two organizations. The work varies among the twelve partnerships. Examples are shown below.

Seven sister forest partnerships are involved in the conservation of habitats and monitoring of migratory wildlife species. Each year, over 65 million Americans participate in bird-related recreation including activities such as hunting, photography, and bird-watching. The economic impact of bird recreation is \$19 billion per year and 236,000 jobs. Migratory birds and bats are vital to controlling insects, often more effectively than pesticides. National Forests comprise the largest amount of habitat for migratory and resident wildlife in the U.S.

National Forests in Texas and the Palo Seco Reserve in Panama: In 1995, fifty Panamanians were trained by Forest Service employees in basic forest fire fighting. Panamanian resource managers will come to Texas for training in preparing a forest management plan for the Palo Seco buffer forest in Panama.

Lewis and Clark National Forest and the Forestry Department of Belize: This partnership also includes the University of Montana, the University College of Belize, and the Pine Lumber Mill in Montana. Funding of \$25,000 from international forestry was used

to leverage a grant of \$500,000 from USAID to bring Belizean graduate students to Montana and to deliver natural resource short courses in Belize. In 1994, five Belizean natural resource students studied forestry at the University of Montana and learned forest management practices as volunteers at the Lewis and Clark NF; Forest Service employees taught three short courses in Belize on fire control and silviculture; and three technical exchanges were carried out on fire control, watershed management, and silviculture.

These activities are illustrative of the work carried out under the twelve partnerships. A more detailed description of the work activities for each partnership can be provided upon request.

019. Question. Please provide a list of programs and projects in priority order which would be funded in the FY 1996 budget proposal. Identify the field unit responsible for each program and project and the amount of money required.

Answer. The activities described in the 1996 Explanatory Notes are illustrative of the work that will be carried out subject to the availability of funds. More detailed work planning will be carried out when we have some idea of available funding and we can discuss our program of work with our cooperators.

International Forestry (IF) funds for the "focus country" program will be divided roughly equally among Brazil, Indonesia, Mexico, and Russia. IF staff will coordinate an active cooperation program with Canada, but no IF funds are allocated for projects in Canada. Cooperation emphasizes bilateral trade issues, strengthening each country's forest management capabilities, and influencing their economic and environmental policies. The Forest Service consults with the U.S. State Department and with USDA and USAID staff in the American Embassy to ensure that we are promoting policies which are consistent with U.S. foreign policy. Field units which will take the lead in carrying out the program include Regions 1,3,5,6,8 and 10; IITF; FPL; and each research station.

1996 promises to be an important year for international dialogue and policy debate on sustainable forest management and timber certification. In 1995, general agreements were reached at a series of international meetings regarding the "criteria and indicators for sustainable forest management" to measure the extent to which each country is sustainably managing its forest resources. Thanks to the influence of the Forest Service, these guidelines reflect a balance between economic development and land stewardship which will provide increased opportunities for the United States to demonstrate international leadership in forestry. 1996 will be the first year that most countries try to implement these new guidelines.

The President's budget proposal includes funds to strengthen the capability of the International Institute of Tropical Forestry (IITF) in Puerto Rico to become the focal point for tropical forestry information in Latin America. At present, the capability to monitor and assess changes in forest cover and conditions in Latin America is sporadic and uncoordinated. Working with FAO, the World Resources Institute, and other concerned organizations, IITF would become the focal point for the ongoing assessment of forest resources in the region.

The President's budget includes funds for the Institute of Pacific Islands Forestry (IPIF) in Hawaii to cooperate with countries throughout the Pacific basin to control the spread of exotic plants which pose a threat to Hawaii's biodiversity and, ultimately, to its tourist industry. This is a high priority for the Hawaiian delegation to Congress.

020. Question. The FY 1996 budget requests a \$200,000 increase above the FY 1995 level of \$300,000 for the sister forest program. When was the sister forest program established?

Answer. Seven sister forest partnerships evolved in the early 1990's from the need for national forests in the United States to cooperate with forestry agencies in Latin America to monitor and conserve the habitats of migratory wildlife. This program directly supports the 24 million Americans who took trips to watch birds in 1991 and the 14 million who hunted birds. Over one-third of all wildlife species in North America migrate each year to locations south of the U.S. border. In cooperation with the National Fish and Wildlife Foundation, the Forest Service is a major participant in the "partners in flight" program.

In 1992, Chief Robertson approved the pilot sister forest program as a vehicle for exchanging information and expertise about managing forest ecosystems at the field level between national forests and their counterparts in other countries. In 1993, the original 7 pairings were recognized by the Washington Office and 5 additional pairings were added to the pilot program. Starting in 1994, funds were allocated to the 12 participating national forests to provide them with the capability to develop and carry out a modest program to develop long-term partnerships.

021. Question. Why is the sister forest program important?

Answer. The sister forest program enables U.S. resource managers and scientists to make a difference at the ground level in the forest management practices of other countries. The program promotes U.S. credibility as a global conservation leader. With its focus on migratory wildfowl habitats, the program has a direct impact on the \$20 billion per year U.S. bird recreation industry.

By exposing Forest Service managers to systems and resource conditions in other countries, the program provides them with new skills and technologies to apply in the United States. In many other countries, forests are not administered by a single entity in the public or private sector. National forestry agencies must work with local public agencies and the private sector to administer forests. Resource management and socio-economic conditions are often extremely difficult and complex. In many areas, such as community forestry and agroforestry, other countries have made advances far beyond those of the U.S., and the program directly transfers this technology to the United States.

The sister forest program trains resource managers in other countries by exposing them to U.S. management systems and approaches, helping them to better manage their resources. Improved management of forests in other countries ultimately affects the air, soil, and water quality of the United States.

The following statement from a Forest Service scientist in Alaska is applicable to this question: "Our concept is to provide an efficient global laboratory for our scientists so that the ecological principles we develop are relevant throughout the world. We have concluded that the most compact and efficient laboratory is to work along a transect from the boreal regions of interior Alaska and Russia, through the varied ecosystems of Mexico, and along a north-south transect in Brazil. This "transect of the Americas" provides us access to all of the world's ecosystems and to the excellent scientific institutions in those focus countries (Russia, Mexico, and Brazil)."

022. Question. What is the amount of travel expenses associated with the field unit programs and projects by Regional Office, Research Station, State and Private Forestry office, and Supervisor Office?

Answer. All funds for the sister forest program are allocated directly to the 12 participating national forests, without an overhead assessment by the regions. Travel costs in FY 1994 were:

Regional Offices:	0
Research Stations:	0
State & Private Forestry:	0
National Forests:	76,000

023. Question. Are the international cooperative programs, which are referenced in the Explanatory Notes, cost-shared with other countries? If so, what are the cost-share levels?

Answer. All cooperative programs are cost-shared with other countries. In many cases, the other country's contribution is "in-kind" or is based on expenses within that country in local currency. In 1995, the estimated dollar value of partner country contributions is \$2.6 million.

In addition, almost all cooperative programs involve the participation of other U.S. government agencies, non-government organizations, or international organizations. In 1995, the projected cost-share contributions of other organizations is \$2 million. In addition, projected cash transfers or reimbursements to the Forest Service are \$2.3 million (from USAID, the U.S. Peace Corps, FAO, and the government of the Netherlands).

Hence, the total cost-share contributions of partners in 1995 is estimated at \$6.8 million. This is based on the assumption that the appropriation for international forestry is \$6.987 million. If some funds are withdrawn by rescission, a proportionate reduction of cost-share contributions is anticipated.

At present, it is not possible to make realistic projections for 1996 cost-sharing. Until the Forest Service and USAID funds are appropriated it will not be possible to firm up partnership agreements.

PACIFIC NORTHWEST FOREST PLAN

The FY 1996 request for the Forest Service contains \$107.4 million for the Pacific Northwest Forest Plan implementation. This is \$12.4 million above the FY 1995 enacted level of \$95.0 million.

024. Question. The budget request provides Region 6 funds to prepare 1 billion board feet (BBF) of timber in FY 1997. However, Region 6 is expected to offer 624 million board feet (MMBF) in FY 1995 and 798 MMBF in FY 1996. Considering the ROD and the new analysis, is Region 6 going to meet its FY 1995, FY 1996, and FY 1997 timber goals? If not, why and what are the new offer volumes?

Answer. We believe that Region 6 will meet the FY 1995, FY 1996, and FY 1997 timber goals

025. Question. What percent of the 1995 sale program will be salvage volume and what percent will be green volume? For 1996?

Answer. In fiscal year 1995, we expect approximately 62 percent of the offered volume will be salvage and 38 percent will be green. In fiscal year 1996, we expect approximately 52 percent of the offered volume will be salvage and 48 percent will be green

026. Question. How much funding is required in FY 1996 to meet the total Forest Plan needs?

Answer. If unlimited funding were available the Region estimates that it could use up to \$204.5 million to expeditiously implement all aspects of the plan. The President's Budget requests \$107.4 million. This will allow us to meet the timber sale program level by FY 1997 and incrementally achieve full implementation of the Forest Plan.

027. Question. How much money has been spent on the Forest Plan to date?

Answer. We have spent \$95 million in FY 1994 and expect to spend the same amount in FY 1995, for a total of \$190 million.

028. Question. What have we received for those dollars? What accomplishments have been achieved?

Answer. Because the plan required a lot of front-end analysis to determine the capabilities of ecosystems in the Northwest, much of the work in FY 1994 and FY 1995 has been centered on analytical work. We have completed enough watershed analyses to remain on target to meet the full timber Planned Sale Quantity (PSQ) by FY 1997, conducted the scientific research necessary to provide managers with the best information necessary to implement on-the-ground actions, and have created hundreds of jobs for displaced timber workers that focus on restoring deteriorating ecosystems.

029. Question. What performance measures have been put in place to hold land managers accountable for forest plan targets?

Answer. The Regions have established measures within their accounting systems that allow both expenditures and outputs related to the Forest Plan. Implementation of major components of this plan (Restoration, Watershed Analysis and Timber) have been made the top priority for line officers on the affected forests. These priorities have been brought forward into their performance appraisals in both FY 1995 and FY 1996. Year-end performance ratings will be based on the line officers' performance in these priority areas.

Since "downsizing" began, the Forest Service has lost many of its most knowledgeable and experienced staff at the Forest and District offices.

030. Question. How will you fulfill your commitment to implement Option 9?

Answer. Implementation of the Plan is a priority for the responsible forests.

031. Question. Do you have sufficient staff in each of the program areas (timber, wildlife, planning, appeals, etc.) to complete the job this year? Next year? Five years from now?

Answer. Yes, and the Region's workforce planning efforts are aimed at maintaining the proper skills necessary to implement the plan through retraining and limited hiring when necessary.

032. Question. What are your weakest areas, and how significantly will they affect your ability to operate?

Answer. It appears that our weakest areas are ecology and Geographical Information Systems specialists. They will not affect our ability to implement Option 9, however these skills may not be available for other projects that are of a lower priority.

PNW FOREST PLAN ORGANIZATIONS

There are layers of coordinating organizations established in the Pacific Northwest to develop, monitor, and oversee the implementation of the President's Forest Plan:

1. An Interagency Steering Committee is located in Washington, DC, with an interagency coordinator located in Portland, OR.
2. A Regional Interagency Executive Committee, whose membership is made of regional agency representatives (Regional Directors), is to serve as the senior coordination and implementation group for the Plan.
3. The Regional Ecosystem Office is to provide a focal point for scientific and technical expertise, for evaluation of Plan modifications, and for coordination of data standards.
4. The Research and Monitoring Committee is to provide advice on Plan implementation and to coordinate research efforts.
5. The Provincial Teams (consisting of federal agencies, states, tribes, and others) are to be the coordinating field teams.

033. Question. Is there an office working with the Washington, Oregon, and California economic development offices? Where does this office fit into the listed coordinating organizations? What is the size of the office?

Answer. For the economic side of the President's Forest Plan, no new offices have been created. Federal employees at the national, regional, and state levels are available for joint

implementation of the plan. Each of these levels is working closely with the economic development offices of each affected state. At the national level, the Multi-Agency Commands (MAC) is a government-wide partnership overseeing implementation of the Plan. Membership consists of all federal Departments and agencies involved with the economic assistance efforts. The MAC meets monthly; staff within agencies address issues on an ad hoc basis. At the regional level, a similar structure exists with team meetings held every other month. At both the national and regional levels, the equivalent of two person-years of time are devoted in aggregate for staff work.

034. Question. Are there any other groups that have been formed outside of the traditional agency organizations to work on PNW Forest Plan activities? If so, what are they and what are their missions?

Answer. Two additional organizations have been established to work on PNW Forest Plan activities.

The first is the U.S. Office of Forestry and Economic Development (OFED). Its mission is to oversee both forest management and economic assistance matters relating to President's Plan implementation. As required in the FY 1995 Interior Appropriations report, OFED will prepare a comprehensive report to Congress and the President on the region's progress in implementing the President's Forest Plan by December 31, 1995. The purpose and responsibilities of OFED are to foster close coordination among agencies and work groups at the national and regional level, ensure proper and continual coordination between regional activities and Washington-based policy and budget initiatives, assist the agencies in implementation of both the forestry and economic matters of the President's Forest Plan and serve as a contact for State/community groups.

The second is a partnership team for each of the ten Adaptive Management Areas (AMA's). The AMA's were designed to encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives. These approaches rely on the experience and ingenuity of resource managers and communities rather than traditionally derived and tightly prescriptive approaches that are generally applied in management of forests. As part of this approach, partnership teams composed of stakeholders for each AMA were established to help in implementation of activities within each AMA. The intent is to provide the stakeholders ready access to a research contact and land manager for each area and develop ongoing relationships.

035. Question. For each of the Forest Plan coordinating organizations, identify the size of the organization (number of people); the total federal cost per organization; the source of funding; the parent agency of each individual; and the expected life of the group. These costs should be provided for each year since the organization was established and for the amount planned in FY 1996.

Answer. The Regional Ecosystem Office is comprised of a staff of 18 FTE's. No agreement has been reached for FY 96. This

estimate assumes FY 95 costs would continue. The distribution of staffing and funding is as follows:

	<u>Staffing</u>	<u>FY 94</u>	<u>FY 95</u>	<u>FY 96</u>
BIA	2	\$80,928	\$50,000	\$50,000
BLM	3	\$107,640	\$100,000	\$100,000
COE	1		\$100,000	\$100,000
EPA	2	\$107,640	\$115,000	\$115,000
Forest Servic	5	\$107,640	\$115,000	\$115,000
NMFS	1	\$107,640	\$100,000	\$100,000
NBS	2		\$15,000	\$15,000
Park Service	1	\$53,772	\$50,000	\$50,000
Fish & Wildlife Service	<u>1</u>	<u>\$107,640</u>	<u>\$100,000</u>	<u>\$100,000</u>
	8	\$672,950	\$745,000	\$745,000

REO costs include salaries for the Director and 4 staff. The salaries for the remaining 13 people are charges to the individuals employing office. The REO is expected to be in place for approximately 5 years.

The U.S. Office of Forestry and Economic Development is comprised of a staff of 6 FTE's. The distribution of funding is as follows:

	<u>FY 94</u>	<u>FY 95</u>	<u>FY 96</u>
Department of Agriculture		62,000	11,000
Department of the Interior		18,000	7,000
Department of Commerce		5,000	2,000
Department of Housing and Urban Development		5,000	2,000
Department of Labor		2,000	670
Environmental Protection Agency		2,000	670
Small Business Administration		2,000	660
	<u>144,000</u>	<u>96,000</u>	<u>24,000</u>

OFED costs exclude salaries, and a portion of the staff's travel and training. These costs are charged to the individual staff member's employing office.

The OFED office is expected to close in December of 1995.

036. Question. Are there members from external groups who are members of these organizations? If so, how many, what are their roles, and what Forest Plan group are they associated with?

Answer. There are external members of the Intergovernmental Advisory Committee (IAC) and the Provincial Advisory Committees (PAC).

The IAC includes representatives from the following non-Federal entities: the states of Washington, Oregon, and California (one each); the counties within the range of the northern spotted owl (one per state); and three tribal organizations.

The PAC includes representation from the following non-Federal entities: the state within which the province is located (one each); affected counties (up to three); affected tribal governments (up to three); conservation/resource interest groups/organizations (three to five); recreation and tourism interests (two); forest products industry (two); and environmental interest groups/organizations (two).

The approved charters for the advisory committees will expire in August 1996.

037. Question. Why did the Administration believe it was necessary to put this multi-layered organization into place?

Answer. Rather than a multi-layered organization, this is a series of coordinating committees that allow local, State, Tribal, and Federal agencies to work together with the public in managing the region's natural resources. One of the primary reasons for implementation of this approach was to bring all involved parties to the table. This strategy was partly responsible for the lifting of Judge Dwyer's injunction which had brought the region's resource management activities to a virtual standstill between 1991 and 1994.

Since the Plan was released, the agencies have been able to withstand all legal challenges. This effective, coordinated effort between the agencies has allowed us to move forward on timber sales, watershed analysis, and restoration projects.

038. Question. What is the purpose of the Regional Ecosystem Office? What is this office providing for the agencies that was not provided earlier? What are it's accomplishments? Who approved this new organization and when?

Answer. REO provides interagency staff work and support to facilitate the Intergovernmental Advisory Committee (IAC), Interagency Steering Committee (ISC) and the Regional Interagency Executive Committee (RIEC) in decisionmaking and interagency issue resolution. There are seven agencies involved in resource management decisions within the range of the northern spotted owl. REO provides coordinated interagency staff work to facilitate prompt resolution of interagency issues by the IAC, ISC, and RIEC.

REO also coordinates and facilitates interagency development and review of resource management products that cross agency lines to promote consistency and sharing. Examples of this are the Federal Watershed Analysis Guide, and efforts to define data standards.

The Regional Ecosystem Office (REO) was established in October 1993 in a Memorandum of Understanding between the White House, the Department of the Interior, the Department of Agriculture, Environmental Protection Agency, and Department of Commerce. This MOU was included in the April 13, 1994, Record of Decision on the Northern Spotted Owl.

The REO provides staff work on a coordinated interagency basis. This interagency coordination was only minimally addressed prior to establishment of the REO and it will be a key component to successful implementation of the PNW Plan. It is important to note that the decisionmaking responsibilities of the individual land management and consultation agencies vested in them by statute has not been changed.

The REO coordinates the formation of interagency workgroups to assist agencies in implementation of the Forest Plan. Accomplishments include:

- the development of the Federal Watershed Analysis guide, which sets the standard for watershed analysis;
- providing interagency review of late-successional reserve (LSR) projects and assessments. An example of this is the Mossback Salvage sale within a late successional reserve on which REO conducted a site review and had the Forest move farther out of the riparian reserve on one unit and drop another portion.
- Based on experience gained over the past year, the REO defined a set of actions which could occur within LSR's without the need for project review by REO.
- REO's commitment to aggressively monitor plan implementation was one of the keys in getting Judge Dwyer to lift the injunction in the Seattle Audubon Society case on the spotted owl.
- the development of an interagency process for developing and coordinating Jobs-in-the Woods restoration projects;
- coordination of an interagency agreement to streamline Section 7 consultations;
- development of guidelines for Adaptive Management Areas;
- working with the research and monitoring group to interpret, apply, and monitor the results of the standards and guidelines. For example all ongoing research projects potentially inconsistent with the standards and guidelines have been reviewed, cleared, modified by REO.
- providing liaison and support for the IAC;
- reviewing AMA plans as they are developed; and
- providing GIS support to facilitate information sharing across agencies.

039. Question. Did Congress provide funds for the new organization? If so, how much?

Answer. In FY 1994 and FY 1995, the land management agencies included funding for implementation of the Pacific Northwest Forest Plan in the President's Budget. Included in the implementation costs were funds for these organizations. This is also true for FY 1996. Congress did not designate funding levels for any of these organizations distinct from that requested in the President's Budget.

040. Question. Will ecosystem organizations such as in Region 6 be established in every Region of the country?

Answer. No, ecosystem organizations such as in Region 6 will not be established in every Region of the country. The size, type, and structure of organizations to accomplish ecosystem assignments are being developed in each region. Each will be tailored to meet local conditions, resources, issues, staffing and budget. The development of the R6 model was driven by resources, situations, and political considerations that are not typical of the other regions.

041. Question. Are employees temporarily assigned from their parent agencies to the Forest Plan organizations? During their leaves of absence, how are their agency assignments accomplished?

Answer. Some of the employees are and some are not. In their absences duties have been handled through details, overtime and sharing of duties with remaining staff.

042. Question. How do these new organizations fit into the streamlining and downsizing efforts for the Department of Agriculture and the Department of the Interior?

Answer. These are sunset organizations. Interior and Agriculture employees will be reabsorbed into their parent agencies and subject to any streamlining or downsizing efforts as otherwise appropriate.

043. Question. How many years will the coordinating organizations be in place? What is the total anticipated costs for each organization?

Answer. REO is expected to have a duration of 5 years. OFED is expected to have a duration of 2 years. Costs for OFED, excluding salaries, are expected to be \$373,000. REO costs, including the salaries for the Director and four staff, assuming a flat budget for its duration, is expected to cost about \$3.6 million.

ADVISORY COMMITTEES

044. Question. What is the difference between the Provincial Teams and the Federal Advisory Committees (FAC)? What is the mission of the FAC?

Answer. Two levels of advisory committees have been established to provide advice to the Federal agencies in the Pacific Northwest: 1) the Intergovernmental Advisory Committee and 2) the twelve Provincial Advisory Committees.

The Intergovernmental Advisory Committee will be providing advice to the Regional Interagency Executive Committee (RIEC) on intergovernmental coordination regarding the implementation of the Record of Decision within the range of the Northern Spotted Owl. The RIEC, consisting of the Pacific Northwest Federal agency heads, will serve as the regional entity to assure the prompt, coordinated, and successful implementation of the standards and guidelines. It serves as the principal conduit for communications between the Interagency Steering Committee and the agencies at the regional level. The Intergovernmental Advisory Committee will provide advice and recommendations to the RIEC on how to better integrate forest management activities among Federal and non-Federal governmental entities to ensure that such activities within the region are complementary.

The Provincial Advisory Committees will provide advice to the Provincial Interagency Executive Committees (PIECs) on coordinating the implementation of the Record of Decision for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the twelve provinces. The advisory committees will also provide advice about implementation of a comprehensive ecosystem management strategy for Federal land within their respective provinces.

045. Question. How will the establishment of Federal Advisory Committees for the Region and the 12 provinces within Option 9 affect the agency's ability to reach its timber and other program goals?

Answer. These committees will help by encouraging and facilitating information exchange that will avoid duplication of efforts. It will also allow for a more coordinated approach to land management between both public and private entities.

046. Question. What is your best estimate of the cost of the advisory committee process?

Answer. The charter for the provincial advisory committees estimates that total annual operating costs for all these committees will be \$225,000 and six staff years of support. Since each committee has only met once in the life of its two-year charter, it is too early to project how close the actual costs will be to what has been estimated.

047. Question. What can the committees accomplish in the 2-year period with that funding? Which program account will pay for the advisory committee process?

Answer. Operating expenses for the advisory committee process are being paid for by the budget line item for ecosystem management. It is estimated that each committee will be able to meet from four to eight times per year until the end of the charter in the fall of 1996. It is hoped that each advisory committee will be able to provide substantial guidance and assistance in determining the best way to implement all aspects of the President's Forest Plan in its specific province and community. All meetings will be open to public observation and involvement and all records will be made available to the public.

048. Question. How will the public interact in the process with this added layer of bureaucracy?

Answer. Each advisory committee will have several members of the public as official members of the committee. These members have been chosen to provide a balanced sample of the publics in the area. Each member is expected to communicate with their respective constituencies concerning advisory committee deliberations.

Any member of the public has the opportunity to request time for oral comments at any advisory committee meeting. Anyone can also send written comments to advisory committee members. Agencies will also be conducting other forms of public involvement as they undertake their legally-required decision processes. Advisory committees provide members of the public another avenue for meaningful dialogue with its citizens.

JOBS IN THE WOODS

If it is appropriate to have a complete answer, I would ask that Mr. Lyons and Dr. Thomas work with the Secretary of Interior in order to develop a complete response. In particular, the "Jobs in the woods program" is of particular interest to me. I am not entirely convinced that the success rate of this program is all that great. The reviews in timber communities across my state are mixed -- some people like the program, but a majority of my constituents in timber towns do not. In light of my skepticism of this program, I want to make certain that, as Chairman, I have a crystal clear understanding of the program, who it has helped, and

how it works. This, of course, means that the Forest Service will have to account for all of the federal dollars appropriated over the past several years for the program.

In particular, I would like answers to the following:

049. Question. What are the exact number of people employed by the Jobs in the Woods program?

Answer. Approximately 2,200 employees have been put back to work under Jobs in the Woods.

050. Question. What is the average length of each job?

Answer. During the first year of Jobs in the Woods, the average length of each contract was 3.5 weeks (they range from 1 day to 6 months in duration). Individuals could work under a series of project contracts leading to a series of jobs over the course of a field season. Pilot projects, where a series of projects were designed into one package, lasted 4 months per pilot. In the present fiscal year, efforts have been made to expand periods of employment. For example, initiation of on-the-ground projects began this year a full 3 months earlier than last year, greatly expanding the window of time available for employment.

051. Question. What is the average wage for each worker under the program?

Answer. In FY 1994, contract wages ranged between \$12.00 per hour to \$26.00 per hour. These rates are set by the Davis-Bacon Act. In some instances where Jobs in the Woods workers became State employees, based on the current state rates, their wages were lower. These rates were approximately \$10.00 per hour; however, the employment packages included health benefits, which some of the workers had been without for some time.

052. Question. In many cases, timber workers have told me that they have to travel great distances from their home to find work due to the dramatic decline in timber jobs. Clearly these distances make it even more difficult for families to stay together. What is the average distance each worker must travel away from their home in order to work in one of the jobs provided by the "Jobs in the Woods" program?

Answer. We do not have specific data on how far workers have travelled to Jobs in the Woods projects. However, 95% of all the contracts for work under the program in FY 1994 were awarded locally. We expect that the travel patterns this would create would be similar to the historic patterns for woods workers in the region.

053. Question. Since the inception of the program, how many employees have been hired and are currently employed with federal funds appropriated to implement the program? What is the average salary of these employees? Compare the number of federal employees hired and employed since the start of the "Jobs in the Woods" program to the number of timber workers employed by the program?

Answer. Approximately 2,200 employees have been put back to work under Jobs in the Woods. None of these people has become a federal employee. While information-gathering provisions of the

Privacy Act prevented gathering information needed to calculate average salaries in FY 1994, the range under federal contracts was from \$12.00 per hour to \$26.00 per hour. The 2,200 non-federal workers put to work compares with a federal labor force that actually shrank during the period in question. (Note: The information-gathering limits of the Privacy Act are being dealt with via OMB data collection clearances and contract evaluation provisions so that more complete data for FY 1995 may be available than was available in our first year of Jobs in the Woods.)

Forest Service-hydro project:

Under the President's Forest Plan -- Option 9 -- small hydroelectric project development is specifically allowed for under the plan. Small hydroelectric projects, however, pending at the time of the adoption of Option 9 have been subject to a variety of requirements, despite their regulation and approval by the Federal Energy Regulatory Commission (FERC).

The typical small hydro project may occupy 4 to 20 acres of federal land. Eighteen projects are pending in the Mount Baker-Snoqualmie National Forest in Washington. Since the selection of the President's plan (April 13, 1994) these projects have been the subject of studies, delay, disregard of existing agreements, and additional mitigation standards. As a consequence of this delay, these small hydro projects have all but been stopped, leaving stranded investments in projects whose fate is uncertain.

054. Question. Please clarify for the record that Option 9 allows for the development and continuation of small hydroelectric projects within the region of Option 9.

Answer. The Record of Decision (ROD) expressly provides for new hydroelectric development within Riparian Reserves (ROD C-36, LH-2, and LH-3), provided the projects are designed and operated in such a manner so as to "maintain or restore riparian resources and channel integrity" (ROD C-36, LH 1-4). Hydroelectric project proposals must also meet other applicable standards and guidelines, depending on other land allocation provisions in the ROD applicable to the specific location of each proposal. Other land allocations may include, for example, Late Successional Reserve, Administratively Withdrawn, Key Watershed, areas.

There are no provisions for new land allocations established in the ROD which specifically preclude the development or continued operation of hydroelectric projects.

055. Question. Please inform the Committee of the general policy of the Forest Service with respect to 18 small hydro projects pending on the Mount Baker-Snoqualmie National Forest, and specify any specific policy for individual projects.

Answer. The status of all hydroelectric projects on the Mount Baker-Snoqualmie National Forest is shown in the enclosed table. We are not clear which of these comprise the "18 small hydro projects" referred to in the question. The general policy for hydroelectric development in the Pacific Northwest Region, and on

the National Forest, is that hydroelectric uses will be favorably considered at appropriate sites when the proposed development is determined to be consistent with the objectives established in the National Forest's Land and Resource Management Plan, as amended by the April 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD).

056. Question. If an application for a hydro project was pending at the time of the approval of Option 9, has the Forest Service changed the mitigation requirements, called for additional studies, or other requirements for these projects after the selection of Option 9?

Answer. Yes. The Record of Decision has established new land and resource management objectives and analysis procedures. Some of these do require project proponents to secure additional information for our evaluation of such new proposals.

057. Question. If the Forest Service has requested additional mitigation, studies and the like, what basis has it used for making these additional requests?

Answer. The answer to Question S-056 applies to this question as well. The enclosed Exhibit 2, Martin Creek Hydroelectric Project, identifies additional information that the Forest Service felt was needed from an applicant for a specific project in order to adequately evaluate the project's impacts pursuant to the Record of Decision.

EXHIBIT 1 **Proposed Hydroelectric Projects on the Mt. Baker-Snoqualmie National Forest**

Project #	Project Name	Date(s) Proposed	Status	USA Required?	Key Issues
3721	Hooksack Falls	Lic. Apl. filed 1982	In FERC DEIS 12/1994	Yes, completed by FS	Existing use of transmission line
4282	Deahorse Creek	Lic. Apl. filed 1983	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes, completed by FS	Roadless entry in Key Wtshd, T&E impacts and OG removal, in Late-Successional and Riparian Reserves
4312	Canyon Creek	Lic. Apl. filed 1983	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes, in progress by FS	High instability, sedimentation, and risks to fisheries, watershed condition unacceptable and in recovery
4376	Rocky Creek	Lic. Apl. filed 1983	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes	Inconsistent with 1990 Forest Plan-Primitive Mgmt Area, T&E spp., roadless, high instability, risk to fisheries
4437	Diobsud Creek	Lic. Apl. filed 1984	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes	Inconsistent with 1990 Forest Plan-Primitive Mgmt. Area and Recommended WSR, roadless, high instability and risk to fisheries.
4628	Wells Creek	Lic. Apl. filed 1983	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes, completed by FS	Impacts to T&E species, habitat removal, instability, sedimentation and risk to fisheries
4738	Glacier Creek	Lic. Apl. filed 1984	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes, completed by FS	Present design unacceptable, high risk slope failure, sedimentation and impacts to fisheries.
10100	Irene Creek	Lic. Apl. filed 1990	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes	Removal of OG/occupied T&E habitat. Impacts to Late-Successional and Riparian Reserves, roadless entry
10416	Anderson Creek	Lic. Apl. filed 1990	In FERC DEIS 12/1994 Inconsistent with Forest Plan/R00	Yes	Removal of OG/occupied T&E habitat, Impacts to Late-Successional and Riparian Reserves, roadless entry, instability and fisheries impacts.
10807	Big/Grade Creek	Pre. Permit filed 1990	Lic. Appl. expected '95 or '96 Last FS consultation 1993.	Yes	T&E species, stability, R00- proposed in roadless/Key Wtshd, wetlands and impacts to Late-Successional and Riparian Reserves.
10942	Martin Creek	P. Permit filed '87, '90	Applicant responding to FERC Lic. Apl. filed 1994	Yes, completed by FS	Late-Successional and Riparian Reserve impacts, WSR, T&E spp.
10953	Mill Creek	P. Permit filed 1990	Lic. Appl. expected in 95 or '96	No, existing road use	T&E, stability
10984	Up.SF Snoqualmie Ck	P. Permit filed 1990	Unknown, last consultation 6/94	Yes, completed by FS	recreation, project economics
11324	Swift Creek	P. Permit filed 1992	Unknown, no consultation initiated	Yes	
11442	West Cady Creek	P. Permit filed '90, '94	Unknown, no consultation initiated	Yes	
11458	O'Toole Creek	P. Permit filed '90, '94	Unknown, last consultation 1993	Yes	

Additional hydroelectric projects on the MBSNF include: 1 licensed (1986) operating project and 3 licensed (2-1986, 1-1992) not-yet-constructed projects.

EXHIBIT 2

Reply To: 2770

Date: November 16, 1994

Ms. Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 Capitol Street, N.E.
Washington, DC 20426

Subject: Martin Creek Hydroelectric Project, FERC Project No. 10942-001
4(e) Preliminary Report

Dear Ms. Cashell:

This letter is a preliminary response of the Secretary of Agriculture, pursuant to section 4(e) of the Federal Power Act, to the Application for License by Skykomish River Hydro, accepted for filing by the Commission on March 8, 1994, for the Martin Creek Hydroelectric Project No. 10942-001 in King County, Washington.

This project does not conflict with any project of which we are aware that should be or has been constructed by the United States. However, the project may have a major impact on the National Forest System lands within the Mt. Baker-Snoqualmie National Forest. The project, as applied for, does not meet the Standards and Guidelines of the Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan, as amended by the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl dated April 13, 1994, (ROD); and therefore, would interfere and be inconsistent with the purposes for which the Mt. Baker-Snoqualmie National Forest was created or acquired. Deficiencies in the application have been identified that prevent the Forest Service from fully assessing the impacts of this project. The Forest Service reserves the right to provide an amended 4(e) report including terms and conditions, if appropriate, when additional information and results of more detailed analyses are available. A discussion of our rationale follows.

The ROD amended the Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan (MBSLMP). The Forest evaluated the Martin Creek Hydroelectric Project in the recently completed Tye River Watershed Analysis as required by the ROD and found the project did not meet the Standards and Guidelines set forth in the ROD. The License Application had been submitted prior to issuance of the Record of Decision (ROD), however, and does not specifically address the new Standards and Guidelines. Based on these facts, I find that project modifications and additional information are required in order for me to determine whether adverse impacts can be reduced or mitigated to make the project consistent with the Standards and Guidelines of the MBSLMP as amended by the ROD. A copy of the ROD/Standards and Guidelines is enclosed for your reference. References to pages in the ROD are shown in parentheses for the following comments and those shown in Enclosure I.

Portions of the Martin Creek Hydroelectric Project would be constructed within northern spotted owl Critical Habitat Unit WA-30, and as such, is protected under the Endangered Species Act. The project would remove suitable habitat for both the northern spotted owl and the marbled murrelet. While the applicant has addressed threatened and endangered species in the Application, a complete Biological Evaluation including all threatened, endangered, proposed, and sensitive species has not been submitted by the applicant. Surveys to protocol are needed to complete the biological evaluation. The biological evaluation must address any changes in project design and mitigation measures from what is displayed in the License Application. We understand that the FERC, as the lead agency, will perform consultation and conferencing with the U.S. Fish and Wildlife Service to determine potential effects and to identify mitigation measures to preserve the northern spotted owl and other threatened, endangered and proposed species. We would be available to assist the FERC during the consultation process if appropriate. Consultation and/or conferencing must take place prior to the issuance of a final 4(e) report and decision by the Forest Service.

All project features on National Forest land are located within a Late-Successional Reserve (LSR) allocation and, as proposed, may adversely affect the reserve (A-4). New developments within LSR's that address public needs or provide significant public benefits may be approved when adverse effects can be minimized and mitigated (C-17). This has not been demonstrated nor addressed in the License Application. Rare and locally endemic species and Protection Buffers, as appropriate, have not been addressed (C-19). The Martin Creek project is located within a Tier 1 Key Watershed (A-5). The intake access roads, diversions, a portion of the penstock route and the powerhouse are located within a Riparian Reserve (B-12). As such, the project must be consistent with the Aquatic Conservation Strategy objectives (B-11) and meet the Standards and Guidelines for Key Watersheds (C-7) and Riparian Reserves (C-32,33, C-36). Modifications of project features and other mitigative measures to reduce or avoid impacts to the reserves, including wetlands and unstable soil areas, or to reduce road mileage within the Key Watershed, have not been addressed in the application.

In summary, the proposed Martin Creek Project may have a major impact on National Forest System lands and resources within the Mt. Baker-Snoqualmie National Forest. Additional information and further analysis is necessary to fully determine the impact of the proposed project on the National Forest. Upon our receipt and review of the requested information and further analysis, the Forest Service will re-evaluate consistency and provide an amended 4(e) report including terms and conditions, if appropriate. We are requesting that FERC designate the Forest Service as a cooperating agency for scoping, environmental analysis and documentation of this project in accordance with the National Environmental Policy Act. Please contact Walter Dortch at the Mt. Baker-Snoqualmie National Forest (206-775-9702) if you have questions.

Sincerely,

/s/ Richard A. Ferraro (for)

JOHN E. LOWE
Regional Forester

ENCLOSURE I

COMMENTS ON APPLICATION FOR LICENSE for MARTIN CREEK HYDROELECTRIC PROJECT (FERC NO. 10942)

PAGE I-6 (6) This section identifies the short access road to the powerhouse but does not include the approximately 1/2 mile of new construction for access to the diversion sites. Add this to the project description.

EXHIBIT A. PROJECT DESCRIPTION

A1.0 GENERAL SETTING

Page A-1, second para. - Add Forest Service Road 6710 to the access description.

A2.0 PROJECT FACILITIES

General Comment - What are the heights of the diversion structures?

Page A-4, 2.1, Martin Creek - "well" is used twice where it should be "wall"

Page A-8, 2.2 Impoundments, last para. - says "turnaround/parking on west side of each diversion structure." This would require crossing Kelley Creek. Plans do not reflect this.

Page A-10, 2.4 Powerhouse, last para. - Specific design standards for new roads will be identified with the issuance of a Special-Use permit. The standards will be those in effect at the time designs are approved.

A3.0 LAND OWNERSHIP

Page A-12, Table A3.0-1, DNR is listed in the footnote but does not appear anywhere in the Table.

EXHIBIT C, CONSTRUCTION SCHEDULE

C1.0 PROPOSED PROJECT SCHEDULE

Page C-2, Figure C1.0-1 - Timing or other restrictions may be applied to specific construction phases dependent upon the findings of the Biological Evaluation for this project.

EXHIBIT D, PROJECT COSTS AND FINANCING

D1.0 PROJECT CONSTRUCTION COSTS

Pages D-2,3, Table D1.1-1 - No clearing is shown for the penstock. Is this included in the diversion road construction? Gravel surfacing is under estimated for new construction and it does not appear that gravel surfacing has been planned to replace that which would be lost thru penstock burial in road 6710. Costs do not appear to include development of any borrow, disposal, or wetland mitigation sites.

EXHIBIT E, ENVIRONMENTAL REPORT

E1.0 DESCRIPTION OF GENERAL LOCALE

Page E1-4, 1.4 Terrestrial Resources, last para., last sentence - Spotted owls are known to occur in the drainage, as documented in this report on Page E3-59, 2nd paragraph.

Page E1-4,5, 1.6 Aesthetic Resources - Statements such as "... a heavily logged watershed penetrated by numerous logging roads and railroad grades." and "The upper watershed has been extensively clearcut." are subjective. Quantify these impacts based on a defined area, such as a hydrographic boundary, and display them on a map.

Page E1-5, 1.7 Land Use, para. 1 - This statement may be accurate for the past, but does not accurately describe how the National Forest lands would be managed under our current Land Management Plan. Timber harvest on National Forest will not dominate this drainage in the future.

E2.0 WATER USE AND QUALITY

Page E2-16, 2.5.3 Mass Wasting, last para. - The statement is made that 40 to 50 percent of the "basin" is clearcut. Is this based on the hydrographic boundary of the basin or some other boundary? Explain, using hydrographic or other defined boundaries.

E3.0 FISH, WILDLIFE AND BOTANICAL RESOURCES

General Comments - What are the plans to address resident fish passage around the Martin Creek diversion? Resident fish need to migrate to the upper reaches for spawning and the lower reaches for feeding. Passage around the Martin Creek diversion should be addressed. The tailrace should mimic natural channel conditions

to the extent feasible. Biological effects discussed in Department of Fisheries Technical Report No. 119, Hydropower Flow Fluctuations and Salmonids: A review of Biological Effects, Mechanical Causes and Options for Mitigation need to be addressed in this Application.

Specific issues are: (1) Salmonid stranding, (2) exposure of spawning gravels, effects on aquatic invertebrates, (3) effects on the riparian area and detrital input, and (4) fluctuations in habitat as a result of flow changes caused by operation.

Page E3-29, 3.2.1.1 General Vegetation, Closed Canopy Conifer Forest - The statement here says these stands have grown following clearcut logging during the past 60 years. Table E3.2-1 on page E3-28 says these stands are 40 - 120 years old. The definition of Closed Canopy Conifer Forest needs clarification.

Page E3-31, General Vegetation, Miscellaneous Vegetation - The Old Cascade Highway has a bituminous surface.

Page E3-31, 3.2.1.2 Sensitive, Threatened and Endangered Plant Species, second para. - Statement "Each survey covered a 100-foot wide corridor centered on the flagged proposed pipeline route..." is made. A number of visits have been made to the site with various applicant representatives. On each of those visits, routes were not clearly marked, and there appeared to be some question regarding the "actual" route and the one that was flagged. Please have the botanist who conducted the surveys furnish detailed maps of the route they surveyed so that it can be determined if the current proposed route is the one that they surveyed. This same concern exists for other surveys conducted, especially, wetlands and historical/archaeological surveys.

Page E3-43, 3.2.2.1 Construction Impacts, first para. - Acreage for old growth impacts for Martin Creek diversion access seems low when compared to figure E3.2-1, and when compared to Kelley Creek access. Within the old-growth stand, Kelley Creek access is approximately 600 feet long, Martin Creek access is approximately 1500 feet long, yet impacts to old-growth on Martin Creek are described as being less.

Page E3-46, 3.2.3 Mitigation, third para. - "The penstock right-of-way will be revegetated..." Clarification of this statement is necessary since much of the penstock r/w will also be dedicated to roads.

Page E3-48, 3.3.1.2, Wildlife Resources, Baseline Field Studies and Agency Consultation - The last paragraph begins "Six endangered,.....", only five species are listed. Clarify.

Page E3-51-53, 3.3.1.2. Baseline Field Studies and Agency Consultation, Spotted Owl & Marbled Murrelet - To adequately assess the potential for disturbance, surveys will need to be conducted in suitable habitat within 1 mile of any planned blasting activity. Surveys will need to be in accordance with protocol in effect at the time they are conducted, not necessarily current protocol. Some changes to current protocol are expected. Same comments apply to Northern Goshawk discussion on page E3-55.

Page E3-65, 3.3.2.1 Impacts, Habitat Losses and Modifications, Bald Eagle, first para. - "...surveys indicate that bald eagles do not use the Martin Creek area for winter roosting...and thus will not be impacted by project construction." This may not be an accurate statement considering the fact that bald eagles have been sighted in the drainage before, (ref, page E3-51). This should indicate that there is a possibility of their return.

Page E3-66, 3.3.2.1 Impacts, Habitat Losses and Modifications, Northern Spotted Owl, para. 3 - The old growth acreage here differs from that shown in Table E3.2-2, page E3-42. Clarify. The same comment applies to paragraph 3 of the Marbled Murrelet discussion on page E3-67.

Page E3-68, 3.3.2.1 Impacts, Habitat Losses and Modifications, Grizzly Bear - Gating roads is one option. Other options may include closing other roads in the area which may provide more benefit than gating the project roads. This would be evaluated thru the B.E. and NEPA processes.

Page E3-69, 3.3.2.2 Additional Impacts, last para. - Our experience with roadside vegetation in this area is that it needs to be managed about every 3 years.

Page E3-69, 3.3.2.3 Cumulative Impacts - Define "...immediate Martin Creek project area....". A hydrographic boundary may provide the best basis for comparison and evaluation purposes.

Page E3-70, 3.3.3.1 Mitigation Plan, Impact Avoidance Measures, second para. - Explain how burial would minimize habitat loss. Long-term this could be true, short-term impacts could be greater. 3.3.3.2 Impact Minimization/Reduction Measures, para. 4, 5 - To mitigate concerns for Marbled Murrelets, this season may need to be extended to September 15th. Final conclusions and recommendations need to be included in the Biological Evaluation. Refer to the comment for Page E3-68 regarding gates.

Page E3-71, 3.3.3.3 Mitigation Plan, Impact Rectification Measures, second para. - Snag requirements need to be in sufficient numbers to support primary cavity excavators at the 40% population level using guides from Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington (Brown, 1985). For the 4.1 acres impacted, 8-10 snags would be more appropriate. (Ref. Forest Wide Standards and Guidelines, Mt. Baker-Snoqualmie N. F. Land and Resource Management Plan, Page 4-124)

E4.0 REPORT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES

General Comments - The Forest Service will need to review and approve the final penstock location to ensure Sullivan's Camp is avoided. A mitigation/enhancement plan will need to be developed and would include the monitoring of all areas of medium to high probability for containing historic and prehistoric resources, and may include archaeological investigation and/or monitoring of Sullivan's Camp.

E5.0 SOCIOECONOMIC RESOURCES

Page E5-8, 5.2.3, Fiscal Impact Analysis, para. 2 - The Forest Service does not collect lease fees. Fees are collected by the FERC.

E7.0 RECREATION RESOURCES

Page E7-2, Figure E7.1-1 - Show the location of the Iron Goat Trail.

Page E7-3, 7.2.2 Special Use Designations pertinent to Recreation, Wilderness - The nearest boundary of the Alpine Lakes Wilderness Area is located 1 mile south of the project area.

Page E7-5-8, 7.3.1, Existing Recreation Resources and Use, U.S. Forest Service, para. 2 - Page E7-5, The nearest developed facility is now the Iron Goat Trail. This facility was completed in 1993. Table E7.3-1, Iron Goat Trail facilities are

Universally Accessible and include trailhead, parking, Kiosk display, interpretive signing, and a two unit composting toilet. Stevens Pass ski area should also be added to the list of developed sites. The ski area is designed for the beginner to the most advanced skier and provides night skiing opportunities. Use runs approximately 400,000 RVD's annually. Page E7-8, para. 1, use will increase in the project area due to the newly constructed Iron Goat Trail.

Page E7-10, 7.3.3 Other Jurisdictions, para. 2 - Longview Fibre lands are now closed to public traffic.

Page E7-10-11, 7.4 Project Effects on Recreation, para. 1 - Road 6710 is a cost-shared road with Longview Fibre. It is probably accurate to say Longview Fibre's use of the road would be primarily for timber management, that is not true for Forest Service use. Forest Service use would be primarily for recreation and administration. With construction of the Iron Goat Trail, it is also not accurate to say the project would have minimal effects on recreation. Construction related impacts would be short-term but relatively highly impacting to the trailhead and parking facilities. Project facilities are expected to be licensed for a period of 50 years. Due to the long-term commitment for these facilities, recreation could also be impacted by foreclosing future opportunities. Reconstruction of the Kelley Creek trail is identified in the Forest 10 year Capitol Investment Program, with construction scheduled for 1997. This project should be designed to mitigate impacts to this trail. Para. 3 - Driving for pleasure should be added to the list of recreation uses. 7.4, Last para., page 11 - The powerhouse is proposed to be located approximately 30 feet off the existing county road. This is an open stand of old growth timber with very little understory to provide screening of the powerhouse facilities. To say that it will only be slightly visible is optimistic.

Page E7.12, 7.5 Recreation Plan - Considering the scale of this project and the long-term commitment to use of National Forest lands, \$40,000 is not considered to be adequate for mitigation/enhancement. Projects which should be considered for inclusion in a mitigation/enhancement package include: 1) an additional composting toilet at Deception Falls Picnic Area, 2) maintenance of Deception Falls picnic area, 3) land acquisition and construction of trail head facilities for Iron Goat Trail at Scenic, 4) resurface 1.1 miles of Iron Goat Trail (phase I), 5) construction of phase II, Iron Goat Trail, 6) reconstruction of the Kelley Creek Trail, 7) construction of a biker/hiker bridge across the Tye River on the Old Cascade Highway, and 8) construction of a Stevens Pass Historic District visitor center/museum.

E8.0 AESTHETIC RESOURCES

PAGE E8.3, 8.1.3 Viewer Information, para. 2 - There is only one major Forest Service road (6710) in the area and several short spur roads. To say that the Old Cascade Highway "....provides access to numerous U.S. Forest Service logging roads." is misleading. Quantify this by identifying the miles of Forest Service and the miles of private road for which the Old Cascade Highway provides access. "Logging roads" is not an accurate description either. Forest Service roads are used for a wide variety of uses, logging is only one of these uses. The Tye River, and several of its waterfalls are also visible along this route. Viewer sensitivity may increase with the additional recreational use associated with the Iron Goat Trail.

Page E8-5, 8.2, Potential Aesthetic Impacts, para. 2 - The last sentence implies that upon completion of construction and

revegetation work that the pipeline route would look much as it does now. Much of this pipeline route is located within old growth timber stands. To say that it will look much as it does now is misleading. This could only occur after 100+ years. No mention is made of the access roads which are planned to be used through the term of the license. These will have a long-term aesthetic impact. Para. 3 - The powerhouse site will also include a power substation. Considering the lack of screening which presently exists along the Old Cascade Highway, it is unlikely that these facilities can be designed to meet the Retention visual quality strategy prescribed for this area. Last para., page E8-6 - High levels of logging traffic are not normal and will be significantly reduced from historic levels.

E9.0 LAND USE

Page E9.1, 9.1.1 Land Use and Land Ownership, para. 3 - Authorization for the transmission line would be via a Special Use Permit, along with other project facilities located on National Forest lands. Visual sensitivity should be evaluated from all existing roads and trails within the area, not just US 2 and the Alpine Lakes Wilderness. Top of page E9-3, Emphasis is not on timber management. Refer to the ROD dated April 1994, which amended the Forest Plan.

Page E9-7, 9.1.2.4 Federal Plans, para. 2 - The Forest Plan description should include, "as amended April 1994".

Page E9-7, 9.1.2.5 Proposed Land Use Plans - Correct this section to reflect the implementation of this Plan: "Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan, as Amended April, 1994. Para. 2 - Update the information pertaining to the Iron Goat Trail.

E10.0 ALTERNATIVE DESIGNS, LOCATIONS, AND ENERGY SOURCES

Page E10-2, 10.1.2 Alternative Diversion Locations and Upper Penstock Routing, last para. - Neither of the alternatives described here are consistent with the project drawings. Kelley Creek diversion does not cross Martin Creek, nor does the mainstem Martin Creek penstock cross Martin Creek at the diversion.

APPENDIX A, EROSION AND SEDIMENTATION CONTROL PLAN

Page 4-15, 4.8 Borrow Areas, Rock Sources - The USFS source is not a quarry. It is a gravel source. Any impacts associated with development of these sites need to be quantified and evaluated in the License Application.

Page 4-17, 4.10 Spoils Disposal, Rock and Soils - Based on our knowledge of road construction on soil types similar to those present around the diversion sites and their access roads, it is likely that a significant portion of excavated materials would not be acceptable for fill material. These glaciolacustrine deposits have been highly consolidated, and it is common to find ground water perched very near the surface. During excavation, it would be difficult to avoid mixing ground water with the soils, liquefying and rendering them unsuitable for fill placement. These soils often contain boulders, many of which will be too large for use as backfill in the penstock trench. Evidence of these characteristics are apparent in the soils along Forest Service road 6710 in the vicinity of the new access road for the Martin Creek diversion. Disposing of any liquefied soils adjacent to the right-of-way is not acceptable due to their close proximity to Martin Creek, other small tributaries, and the wetlands which have been identified in this Application. Alternate disposal sites will need to be identified and the

related impacts of their development evaluated in this Application.

The unsuitable nature of these soils will also create a need for additional borrow, adding to both project impacts and project costs. The problem of encountering boulders too large for use as backfill should also be anticipated with penstock burial in road 6710.

OTHER COMMENTS

We have reviewed this project for consistency with the Forest Plan as Amended by the ROD dated April 1994. This project is located within a Tier 1 Key Watershed. Portions are located within a Late Successional Reserve (LSR) and a Riparian Reserve. For projects located within Key Watersheds, Watershed Analysis is required prior to management activities. Watershed Analysis for the Tye River watershed, which includes the Martin Creek project, has recently been completed. The following comments have been developed considering the Tye River Watershed Analysis and the April 1994 Record of Decision/Standards and Guidelines which Amended the Forest Plan. The April 1994 ROD page references are included in parenthesis.

1. Key Watersheds, Standards and Guidelines

- a) Identify specific mitigation which will result in no net increase in the amount of roads within the watershed (C-7).

1. Late Successional Reserve (LSR) Standards and Guidelines

- a) Complete Marbled Murrelet surveys according to current federal protocol. If behavior indicating occupation is documented, specified habitat within 0.5 miles will need to be protected (C-10).
- b) Quantify the effects to late-successional habitat, and display the net effect on the creation and maintenance of late-successional habitat (C-10).
- c) Demonstrate that road construction and maintenance will be consistent with the LSR Standards and Guidelines (C-16).
- d) Demonstrate that adverse effects on the LSR have been minimized and mitigated to have the least possible impacts, and that project features have been located to avoid degradation of habitat and adverse effects on identified late-successional species (C-17).
- e) If introduction of nonnative species is proposed, complete an assessment of impacts. Avoid any introduction that would retard or prevent achievement of LSR objectives (C-19).
- f) Identify any rare and locally endemic species in the project area. How will they be protected (C-19).

2. Riparian Reserves Standards and Guidelines

- a) Demonstrate that roads can meet the Aquatic Conservation Strategy objectives (C-32: RF-2 & RF-3).
- b) Demonstrate that sediment delivery to streams from roads has been minimized (C-33: RF-5).
- c) Any new recreation facilities which are a part of project mitigation must be designed to not prevent meeting Aquatic Conservation Strategy (C-34: RM-1).
- d) Identify stream flows necessary to maintain riparian resources, channel conditions and fish passage (C-36: LH-1).

- e) Demonstrate that in-stream flows and habitat conditions will maintain or restore riparian resources, favorable channel conditions and fish passage (C-36: LH-2).
- h) Support facilities must be located outside Riparian Reserves. (C-36: LH-3).

OLYMPIC PENINSULA

058. Question. What new information do you have on the spotted owl populations in the Olympic Peninsula? How will this information be used?

Answer. The National Park Service has conducted surveys that found additional owl pairs in numbers that exceeded previous estimates. Additional information on owl pairs was also provided for private and State of Washington lands. Continued surveys on federal lands on the Olympic peninsula have added additional information.

The new information was used by an interagency team to assess the spotted owl situation on the Olympic Peninsula. A report, "The Contribution of Federal and Non-federal Habitat to Persistence of the Northern Spotted Owl on the Olympic Peninsula, Washington" was issued in October of 1994. The conclusions reached by that team indicate that it is likely, but not assured, that a stable population of owls would be maintained on portions of the Olympic National Forest and the core area of the Olympic National Park in the absence of any non-federal contribution of habitat. The team also concluded that the state and private lands area northwest of the Olympic National Forest (the western Special Emphasis Area) could result in a biologically significant contribution to the maintenance of a stable population of spotted owls on the Olympic Peninsula.

059 Question. What impact will the data have on private lands?

Answer. The USDA Forest Service has no jurisdiction over private lands on the Olympic Peninsula. The USDI Fish and Wildlife Service, presently working on a special rule under Section 4(d) of the Endangered Species Act, initiated the above described interagency team assessment and will have the information available for their process.

060. Question. Are you using information that private landowners have provided for owl populations on their lands throughout the Option 9 area? If not, why? When will you use it?

Answer. Data from private landowners in Washington, Oregon, and California was considered in the development of Option 9. Under the adaptive management process of the Northwest Forest Plan, that came from Option 9, information on spotted owls from private landowners will be considered to determine if changes in the plan are warranted. Recently, new data from private lands in California were made available to Forest Service scientists for initial review and verification of the data. Once this data has undergone formal peer review and been accepted into the literature, it will be available for consideration under adaptive management. Such considerations include assessments about the applicability of the information to other areas and the overall significance of the findings.

TIMBER SALES

Within the National Forest Systems account, the timber sales program request of \$157.6 million is \$23.4 million less (-13 percent) than the FY 1995 level of \$181.1 million. The proposed funding level will support a timber sale volume of 2.2 billion board feet (BBF). With proposed 1.5 BBF volume for salvage sales, the total volume is 3.7 BBF. The FY 1995 timber sale target is 4.1 BBF (2.5 BBF in new volume and 1.6 BBF in salvage volume). For comparison, the FY 1990 timber sales program was provided with \$251.8 million to prepare and offer 11.1 BBF.

061. Question. The funding contrast between FY 1990 and FY 1995 is greater than the \$94 million difference due to the FY 1995 budget structure change, which includes all of the other resource support costs that were previously excluded from the timber management line item. Is that correct? Please provide the total FY 1990 timber management program funding level for the record.

Answer. Yes, the new budget structure does include several changes between fiscal year 1990 and fiscal year 1995. The fiscal year 1995 budget includes resource support activities and funding for the Tongass NF, but does not include law enforcement or the timber pipeline initiative. For the fiscal year 1990 budget to approximate the fiscal year 1995 budget structure, it is necessary to: add \$56.0 million for resource support, \$37.0 million for the Tongass Timber supply fund; subtract \$14.8 million for the timber pipeline initiative, and subtract about \$11.0 million for the transfer to law enforcement. This results in a fiscal year 1990 budget of about \$319.0 million, compared to the fiscal year 1995 budget of \$181.1 million. Adjusted for inflation based on the consumer price index, the fiscal year 1990 timber sales management budget would approximate \$367.0 million today.

Detailed breakdown of the fiscal year 1990 budget:

Extended Line Item	FY 1990 (1,000 \$ 1990)
Inventory and planning	21,413
Silviculture Examination	31,048
Sales preparation	118,264
Harvest administration	66,235
Timber Pipeline Initiative	<u>14,836</u>
Subtotal Timber Sales	251,796
Support	
Minerals	1,389
Fire	4,063
Recreation (Cultural Res)	12,406
Wildlife and Fish	9,700
Range	989
Soil and Water	9,057
Land line location	<u>18,355</u>
Subtotal Support	55,959
Tongass Timber Supply Fund	36,955
Salvage Sale Fund	111,006

Extended Line Item

FY 1990
(1,000 \$ 1990)

Road Construction	
Forest Service construction	93,030
Purchaser roads constructed by FS	<u>2,946</u>
Subtotal	95,976
 Total	 551,692

062. Question. In looking at the National Forest System summary table on pages 8-2 and 8-3, it appears that the Forest Service timber program was sacrificed to boost range management program. Please explain this rationale.

Answer. In FY 1996 the Forest Service will be placing emphasis on the restoration of deteriorated ecosystems. Two key actions that will contribute to restoration of the deteriorated ecosystems include the Forest Health initiative and the Range Restoration and Management initiative. Dollars and people have been shifted to address this high priority. The timber funding is low due to several factors, i.e. T&E species protection. The Range program increase is needed due to the number of expiring permits and the requirements of NEPA. In addition to funding reductions in the timber program, there were also significant reductions made in the Construction, Permanent, and Trust appropriations.

063. Question. With reference to the FY 1996 budget history table, the Forest Service timber request to the Department was \$170 million, \$13 million more than the President's request. What was the volume associated with the additional \$13 million? What amount of road construction dollars were required to support this volume?

Answer. The Forest Service request to the Department was \$169,935,000 for timber sales management, or \$12,321,000 more than the President's Budget. Included in the Agency request was a \$4,400,000 allocation to Region 6 for volume to meet the President's Plan in future years. This left \$7,921,000, which produced an additional 157 million board feet of timber offered for sale in FY 1996. An additional \$3,416,000 of road construction funding would be needed for the additional volume.

064. Question. In FY 1994, Region 1 sold only 38.2 percent of its assigned target. Similarly, Region 6 sold only 43.4 percent of its target. Other regions performed much better (Region 3 - 82.1 percent, Region 8 - 88.4 percent, Region 9 - 99.3 percent). What steps is the agency taking to improve performance?

Answer. We are very much concerned about achieving the timber volume estimates that we are funded to produce. An accountability task force has been exploring means to increase accountability. In addition, we are developing an allocation process to base regional timber allocations on past performance, cost effectiveness and competition among regions.

065. Question. Under ideal circumstances most of the green sale offer program and 70 to 75 percent of the total timber sale offer program should be prepared, NEPA completed, and field work substantially completed at the beginning of the fiscal year. All

Regions fell considerably short of that goal for FY 1995. What would it take to bring the timber sale pipeline back to an ideal state?

Answer. The timber pipeline issue can be separated into two distinct components, NEPA compliance (Gate 2) and field work (Gate 3). NEPA compliance is the most unpredictable and has been the most difficult Gate to complete, as much of this process depends on the influence exerted by other agencies, groups, and individuals. Ideally, NEPA should be completed a couple of years before sale advertisement and there should be more than the current year's volume on the shelf in completed NEPA documents. This is not the current situation and would require additional professionals in most resource areas. However, it would also increase the risk of having to rework sales. Regions have found continued changes in procedures resulting from consultation, threatened and endangered species listings, lawsuits, settlements, and appeals have resulted in pipeline losses, as previously prepared sales must be reworked to include the new information or procedure.

The field work portion of the pipeline is not as critical and is easier to schedule and complete. In many cases the on-the-ground work is completed before winter, but the office duties of compiling data, designing roads, and preparing the contract is completed in the winter. In this case, Gate 3 accomplishments are not tallied at the start of the fiscal year. For example both Regions 8 and 9 had less than 50% of the volume that completed Gate 2 (NEPA) actually ready for offer on October 1, 1995.

From FY 1990 to FY 1994, Congress provided \$146 million of appropriated and salvage funding for restoring the timber pipeline. During this time considerable progress was made in restoring the pipeline, only to have that progress lost. Timber sales prepared for future years were brought forward to replace current year timber sales that were delayed through appeals and litigation. Other completed future sales became outdated and needed rework because of new or additional requirements from other agencies, court decisions, appeals, and settlements. This is particularly true in the western regions. For example, \$37 million was spent restoring the pipeline in Region 6 in FY 1990 and FY 1991. However, most of this volume was lost through spotted owl litigation or had to be reworked to meet new and changing standards for endangered species.

A recent estimate of the resources needed to increase the FY 1996 program can be used to approximate what is needed to restore the timber pipeline. We estimate that approximately 580 million board feet of additional green volume can be offered for sale in FY 1996 if an additional \$46 million of timber funds and an additional \$8 million in road construction funds were available. This volume level is limited by the current amount of pipeline volume, as sawtimber sales take two to three years to prepare before offering. Volume increases in future fiscal years would require additional funds and people. Increases in the regular timber sale program must also be considered with proposed increases in the salvage sale program. Former employees may be needed in the short term to increase both programs simultaneously. To sustain a higher program level would require hiring additional people.

Our goal is to have the current fiscal year's offer program through NEPA and substantially ready for sale at the start of the year. Sale preparation work during the year should be for future years' sales. Ideally, we would want to have 1 to 3 years of sales on the shelf. However, given today's climate of appeals, delays, challenges, lawsuits, and coordination with and approval from numerous agencies, these goals may not be attainable.

066. Question. Unit costs for timber sales continue to climb. For instance, costs in Region 1 have gone from \$58.32/MBF (thousand board feet) in FY 1990 to \$129.70/MBF in FY 1995. Unit costs in Region 6 in FY 1990 were \$38.88/MBF and in FY 1995 they are \$168.86/MBF. What is causing the escalating unit costs?

Answer. Several regions have had substantial increases in unit costs over the period. These increases are primarily the result of the rapid reduction of volume following specific events, as well as the increase in reworking of existing sales. Regions 1, 3, 5 and 6 experienced significant unit cost increases in FY 1994 and FY 1995. These unit cost increases correspond to the reduced planned offer (target) levels in FY 1994 and 1995. Total costs for these regions have been decreasing, but at a slower pace than volume. In addition, unit rates increased, as the smaller offer program still has to pay for fixed cost. Specifically, Region 1 does not have wilderness legislation and had to reduce harvest. In addition, reductions were made for grizzly bear, bull trout and salmon. The listing of the Mexican Spotted Owl and considerations for the goshawk have caused Region 3 to cancel, modify, and rework existing sales, as well as rework future sales resulting in a deteriorated timber sale pipeline. Region 5 lost volume from the four Northern California forests as the result of listing the Northern Spotted Owl, and in the Sierra's because of actions to prevent listing of the California Spotted Owl. Region 6's volume dropped dramatically following listing of the Northern Spotted Owl and the Dwyer injunction. The listing of the Marbled Murrelet and salmon have added to the workload. Smaller sales, decreased use of clearcutting, and increased complexity of environmental analysis and consultation have added to the workload needed to implement the program.

The unit rates quoted for Region 6 include sale preparation dollars to restore the timber sale pipeline in order to fully implement the President's Plan in FY 1997. If we divided the timber sale dollars by 1,000 million board feet that the region is funded to prepare, the unit rate is \$105.37, not \$168.86/MBF.

Data is not available to distinguish how individual events cause increases in unit rates. Increases in the cost of resource support can not be specifically attributed to additional work on appeals, changes in wildlife protocols and procedures, listing of additional species, and NEPA requirements. However, the FY 1994 Timber Sale Program Annual Report (TSPIRS) shows the following trends in sale preparation costs from FY 1992 to FY 1994:

	Pct. of Total Sale Preparation Cost	
	FY 1992	FY 1994
Analysis and Documentation (NEPA)	7.7%	12.3%
Other Resource Support	28.7%	31.2%
Appeals and Litigation	2.6%	3.5%
Field work and contract preparation	61.0%	53.0%

067. Question. What can the Forest Service do to reduce the increasing costs?

Answer. The Forest Service continues to make a major effort to reduce timber program costs. The effort has three major aspects: downsizing and restructuring of existing timber organizations; Regional and national plans for reducing timber program costs; and continuous auditing of the implementation of the cost efficiency plans and factors that affect unit costs.

Each region continues to make substantial progress in their cost efficiency plan implementation and reducing their timber organization. At the national level, we are developing a regional allocation process to base timber funding on past performance and competition among regions. In addition, fixed costs associated with harvest administration should decline as harvest volumes start to approximate offer volumes. Harvest volumes have not declined as rapidly as volume offered for sale because of volume under contract. This has resulted in harvest administration costs becoming a larger share of timber funding and driving up unit rates. In the fiscal year 1989, harvest administration accounted for about 28 percent of timber sales management costs, whereas, in the President's Budget harvest administration is about 32 percent. Similarly other fixed costs should decline to reflect a smaller timber related workforce. For example, rents should decrease as leases expire.

068. Question. What is the current volume under contract by Region to purchasers? Is this a record low?

Answer. As of September 30, 1994, there was 6.8 billion board feet of timber under contract. This is the lowest volume under contract in the past several decades. Volume under contract is based on the volume of timber sold and harvested. The last time volumes sold and harvested were of the same magnitude was prior to 1953.

Volume under Contract	
Fiscal Year Ending September 30, 1994	
Region	Volume (million board feet)
R-1	706
R-2	413
R-3	127
R-4	383
R-5	855
R-6	1,533
R-8	1,140
R-9	1,607
R-10 ^{1/}	63
Total	6,827

^{1/} Region 10 volumes are for the independent program and does not include the long-term contract.

069. Question. What steps should be taken to begin restoring the timber sale program?

Answer. We assume that this question is referring to the regular or green timber program as opposed to the salvage sale program. To restore the regular timber program would first of all require restoring the advanced sale preparation pipeline. It typically takes more than one field season to prepare a green timber sale. We have been implementing methods to speed up the process, such as the recent Memorandum of Understanding on consultation among the Forest Service and agencies with oversight responsibilities for threatened and endangered species.

Recent reductions in budgets and people have also reduced the pipeline. Increased funding would be necessary for a couple of years in order for the additional volume to be prepared for sale. We estimate that approximately 580 million board feet of additional green volume can be offered for sale in fiscal year 1996 if an additional \$46 million of timber funds and an additional \$8 million in road construction funds were available. This volume level is limited by the current amount of pipeline volume and not the number of employees. Maintaining this volume increase in future fiscal years would require similar funds and people. Achieving this increase in the regular timber sale program must also be considered with proposed increases in the salvage sale program. Former employees may be needed to increase both programs simultaneously. At the same time, the Forest Service, like other federal agencies, is required to reduce staffing by the Federal Work Force Restructuring Act of 1994.

TIMBER SALES CLAIMS AND SETTLEMENTS

The Forest Service estimated \$200 million in potential payments for claims and settlements over contract modifications and cancellations due to efforts to protect endangered species habitat (such as the marbled murrelet, Mexican spotted owl, and salmon). These potential payments are noted but not included in the FY 1996 request.

070. Question. What does the \$200 million include, and how were the payments calculated?

Answer. The Forest Service estimated \$200 million in potential payments for claims and settlements over contract modifications and cancellations due to efforts to protect endangered species habitat (such as the marbled murrelet, Mexican spotted owl, and Salmon). These potential payments are noted but not included in the FY 1996 request. Each Forest Service Region reviewed the status of their sales under contract and identified those sales that were suspended for the protection of sensitive, threatened or endangered species. Most of the estimated damage cost reflects the additional cost the Forest Service will pay timber sale purchasers to cover the increased value to replace timber deleted from the contracts along with miscellaneous costs to the purchaser to hold the contract. Payments are calculated based upon the projected increase of stumpage values over that in the present contract.

071. Question. When does the Forest Service anticipate knowing whether these payments will be necessary? How will they be funded?

Answer. These claims are slowly being resolved, but many are delayed as the Forest Service completes additional analysis that may minimize damages. Appropriations law requires the payments be made from the timber sales management line item, which is not large enough to pay all of these claims. Therefore, further appropriated funding will be necessary. In addition, these sales cannot be cancelled until funds are available or the agency will be in violation of the Anti-Deficiency Act.

TIMBER SALVAGE OPERATIONS

Chief, will you please update the Committee on the salvage operations underway in response to the FY 1994 wildfires.

072. Question. What progress has the agency made on completion of the environmental documents for the Idaho and Eastern Washington fire sites?

Answer. The Idaho fires in Region 4 occurred on two forests, the Boise and Payette. The Status is as follows:

Boise: Two NEPA documents in progress on the Boise.

Boise River EIS - There is a final decision on this document and the forest is selling salvage volume. They expect an appeal.

Thunderbolt EIS - Public review period has been extended and a decision is expected later this summer.

Payette: There are four NEPA documents in progress.

North Fork EA - Public comment period closed on May 16. Final EA due out around the middle of June.

Fall Creek EIS - Public comment period closes July 10, 1995. Final EIS expected the middle of August.

Main Salmon EIS - the document is currently at the printers and the comment period closes July 17. Final EIS expected in August.

South Fork EIS - Public comment period will begin in 2-5 weeks due to new issues. Final EIS uncertain at this time but the forest is working toward release in August or September.

Region 6 had some of the analysis work delayed because of winter snows. The largest fires were on the Wenatchee NF. They anticipate having decision notices covering 25% of the area by June 1 and an additional 50% by the middle of July.

073. Question. If the agency were to receive increased authority for an expanded salvage sale program, would you have sufficient biologists and NEPA experts to produce the larger program?

Answer. Regions 1, 4, 5, and 6 would be the most affected by an emergency salvage program. The type of skills that are lacking varies widely between Forests. The Agency believes a mix of contracting and some short-term rehire may be needed to offer the additional salvage timber. We are currently in the process of

determining what additional skill needs for expediting the salvage program might be able to be met through rehire of some of the buyout retirees, so we will be prepared to request rehire exemptions under the authority of salvage legislation (if enacted) or OPM (if granted).

Some units lost their expertise in contracting for services or products, sale layout, and sale administration. In these instances, a combination of ideas including rehire, long-term details, and the sharing of contracting expertise will be needed to get the job accomplished.

A quick estimate of skills needed to get the job done indicates the need for 300-500 highly skilled people for a period of two years or less. Estimated annual cost is \$12,000,000 for the two-year period.

074. Question. Would the agency or Congress need to change the current contracting rules to efficiently obtain the mix of services needed to complete an enhanced salvage program?

Answer. Contracting all or part of the preparation of salvage timber is necessary to meet the requirements of the amendment. The amount of contracting will vary among units depending on the available Forest Service skills, salvage volume, and availability of contractors. Contracting is a tool that has been used and will be needed but may not meet all of the skills necessary to implement the amendment. The specific amount of salvage volume that will be contracted is not currently available. There will likely be localized situations where contractors with specific skills are not available and Forest Service employees may need to be temporarily detailed to those units.

075. Question. Would stretching the NEPA analysis deadlines for range permit renewals over three or more years help this situation?

Answer. This would free up some biologists' time to work on other priorities such as salvage. It also would result in some increase in the organizational capability for salvage (about 30 MMBF additional volume in each of FY 1996 and 1997).

076 Question. Have the forests in Region 4 completed assessments of the roadless area entries needed to recover last summer's salvage? What volume of salvage lies in roadless areas?

Answer. Region 4 has made estimates of what salvage volume they expect to recover from inventoried roadless areas. Under existing authorities, they expect to offer about 288 MMBF from inventoried roadless areas during fiscal years 1995-1997 (73 MMBF in FY 1995, 165 MMBF in FY 1996, and 50 MMBF in FY 1997). Under the expanded authorities available in the proposed salvage amendment, they would expect to offer about 344 MMBF from inventoried roadless areas during fiscal years 1995-1997 (191 MMBF in FY 1995, 86 MMBF in FY 1996, and 67 MMBF in FY 1997).

077. Question. How have the watershed screens and watershed assessments impacted the ability to recover salvage in the next several years? Has the ESA consultation process slowed or prevented salvage recovery?

Answer. Watershed analysis or assessments can be an important tool in providing the effects analysis needed to show compliance with environmental laws such as NEPA, NFMA, and ESA. If the analysis is focused on the important issues that are best addressed at a broader scale, it can be more efficient than attempting to address these issues project by project. Having the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS) participate in watershed analysis can reduce the time needed to complete consultation on proposed projects covered by the analysis. Under the interagency agreement signed in March, interagency teams will be used to complete consultation simultaneously with project development. This process will help reduce projects being held up waiting for consultation results, as has sometimes occurred in the past.

078. Question. If the price of timber remains strong at current levels, will the Salvage Sale Trust Fund have sufficient resources to cover an expanded salvage program over the next 2 years?

Answer. Estimates have been calculated for the scenario that offers the largest volume at the most aggressive rate under the proposed amendments. There will be sufficient funds in the Salvage Sale Trust Fund over the next two years. Since the costs for salvage sales are incurred prior to the receipts being generated, the fund balance will almost be exhausted in late fiscal year 1996. However, that is the same time that receipts should be strong. By the end of fiscal year 1997, the account should be fully restored.

RANGE MANAGEMENT

079. Question. The Forest Service recently announced that it is changing its grazing policy. Please explain the changes. When and how will they be made formal?

Answer. Proposed changes to Forest Service policy regarding administration of permitted livestock grazing were published in the Federal Register on April 28, 1994. As stated in the summary, the changes update direction for managing domestic livestock, place greater emphasis on stewardship of the rangeland resource, clarify the link between livestock grazing permits and forest plans, and clarify the range management planning and decisionmaking process. The Department of Agriculture proposes to improve administration of livestock grazing permits, and to achieve greater consistency between the grazing management regulations of the Forest Service and the Bureau of Land Management, U.S. Department of the Interior. The intended effect of the changes is to provide for healthy, diverse, sustainable rangeland ecosystems on National Forest System lands.

Public comments on the proposal have been analyzed and responses are being developed for inclusion in the final rule. In some cases the proposal will be modified based on those comments. It is anticipated that modifications to the proposed rule will be completed and the final rule published in early December, 1995. A copy of the proposed rule, as it appeared in the Federal Register, can be provided.

080. Question. How many grazing permits does the Forest Service have under its control? How many expired in FY 1994? How many are expected to expire in FY 1995? How many will expire in FY 1996?

Answer. In 1994 there were 8,970 paid permits authorizing grazing on National Forest System land. An estimated 110 permits expired in 1994, 2,878 permits will expire in 1995, and 660 permits will expire in 1996.

081. Question. How does the grazing language that is included in the FY 1995 Rescissions bill affect the FY 1996 budget request? What amount of funds would be freed to be put back into other range areas or into other resource programs?

Answer. The language would not affect the budget request. While the language would provide some relief through deferment of NEPA analysis, it is necessary to maintain the request to meet objectives for other elements of the range program. These include grazing permit administration, noxious weed management, allotment inventory, monitoring and planning, wild horse and burro management, planning and development of range improvements, administration of range betterment funds, and others. At the requested funding level, the Forest Service would not have met objectives for these other program elements while conducting NEPA analysis required to issue permits. The amendment frees approximately \$4.5 million for other range program elements.

082. Question. What are employment plans and the process for the Forest Service doubling its range management work force? What job categories are required to implement the FY 1996 proposal? What are the recruitment plans?

Answer. The Forest Service has no intention of doubling its range management workforce. While some employees have been lost through attrition and downsizing since FY 1994, enough are still employed in FY 1995 to meet the FY 1996 estimated need without a significant impact to the Forest Service workforce. Most resource management disciplines employed by the agency participate in managing rangeland ecosystems. There is no recruitment plan, nor will one be required.

083. Question. If the new range management employees are expected to be moved from other areas within the Forest Service, based on the budget justification, it appears that they would be primarily be moved from Forestland management (timber). Is this correct?

Answer. No movement of employees between disciplines would be required. Enough range management professionals are still employed from FY 1994 and will be carried through FY 1995 with appropriated and reprogrammed range dollars to meet the FY 1996 estimate. No movement of employees from Forestland management would be required.

084. Question. The Forest Service has told the Committee that the range management program would require the requested level of \$43.5 million in future years? If so, why?

Answer. The request is necessary to maintain programs in grazing permit administration, rangeland vegetation management, noxious weed management, wild horse and burro management, range improvement construction, and other program elements at base levels. The 5-year average appropriation for range in FY 1990 through FY 1994 was \$40.7 million. It is imperative that range is funded at the requested level to complete comprehensive analyses scheduled during permit issuance in FY 1995. Further analyses will

be scheduled in FY 1996 and future years. Not completing scheduled analyses will cause difficulty complying with NEPA and other environmental laws, placing associated grazing permits in jeopardy.

GRAZING MANAGEMENT

An increase of \$11.6 million is proposed for various grazing management activities, including National Environmental Policy Act (NEPA) documentation of grazing permits and management plans, planning and implementation of structural and non-structural range improvements, strengthened collaboration and consultation with permittees, and additional monitoring and evaluation.

085. Question. What level of funding increase will be directed to each of these areas and what will be accomplished?

Answer. The amount directed to each area will vary between Forest Service regions. Since this level of program detail is best determined locally, regions will decide which grazing management activities to emphasize.

086. Question. Are there other areas to which additional funding would be directed?

Answer. Additional funding would be directed toward staff input needed for NEPA analyses. Under the benefitting function concept, range management will finance support from other program areas such as wildlife and fisheries, cultural resources, and others, for required input to analysis and planning processes.

087. Question. The FY 1994 grazing program provided for 2,953 range structure improvements. The FY 1995 program is expected to provide 1,828 structure improvements. However, the FY 1996 grazing program which is requested for an \$11.6 million increase above the FY 1995 enacted level (\$9.4 million above FY 1994) is expected to accomplish 2,700 structure improvements. Why is there such a difference in accomplishment among these 3 years?

Answer. In FY 1994, 2,953 structural range improvements were accomplished with an overall range management line item of \$44.127 million and \$1.574 million within the expanded budget line item for structural range improvements. With budget restructuring in FY 1995, the expanded budget line item for structural range improvement was dropped. The figure of 1,828 planned accomplishments for FY 1995 was prorated from the previous budget structure. The projected accomplishment for FY 1995 did not anticipate program impacts of issuing grazing permits and it is doubtful that projected accomplishments will be met. The FY 1996 proposal is similar to the FY 1994 appropriation and should allow recovery to the projected figure.

088. Question. What is meant by improved "on-the-ground" administration (page 3-9) and will increased funding be directed to it?

Answer. Yes, increased funds would go to on-the-ground administration. This includes conducting allotment inspections, performing compliance checks, monitoring forage utilization levels, overseeing installation of range improvements, and other field-based activities associated with the management of

rangelands. Recent funding levels have allowed administration of approximately 20% of active grazing allotments.

089. Question. On page 8-45 you indicate an emphasis in strengthening standards and guidelines, and desired conditions in forest plans. Will this be accomplished during the normal Forest Plan revision cycle? If so, this could require up to 15 years to complete and rangeland conditions may continue to suffer. If they will be implemented on an accelerated schedule, how will this be accomplished and will it require additional funding?

Answer. Forest plan standards and guidelines for managing rangeland ecosystems will be modified or developed through the normal forest plan revision cycle or by amending existing plans. Forest plan revisions will be used where minor adjustments to existing guidelines will provide clarification without significant management implications; revisions are planned for in the normal budgeting process. Expedited development of standards and guidelines to correct deficiencies that jeopardize resource conditions in rangeland ecosystems will require forest plan amendments necessitating additional funding or diversion of existing funds.

090. Question. Of the 74 million acres with established resource objectives, you indicate that 51.6 million acres are meeting or moving towards forest plan objectives. When do you anticipate achieving established resource objectives? If the Range Management funding were to remain at the FY 1995 level, when would objectives be met? What would be the impact of a 10% reduction in range management funding from the FY 1995 level on achieving resource objectives? When will objectives be established on the remaining Forest Service rangelands?

Answer. There is no estimate of when these objectives will be achieved. Variable resource and climatic conditions preclude such predictions. Management objectives are achieved when measurable improvement and a satisfactory rate of progress have been established. If funding remains at the FY 1995 level, it is doubtful that further gains in achieving resource objectives would be realized. Funding 10% below the FY 1995 level would result in lost ground toward achieving resource objectives since ongoing management could not be maintained. Inadequate funding for monitoring would make it difficult to verify the extent of the problem. Under the previous budget structure, 141 allotment management plans were completed and implemented in FY 1994 with an appropriation of \$38.6 million for range vegetation management. Approximately \$11.3 million was spent on the allotment planning process and \$27.3 million was spent on administrative activities. Funding 10% below the FY 1995 level would result in a total range appropriation of \$16.6 million which is insufficient to meet administrative obligations and would not allow further implementation of improved management.

091. Question. For riparian areas, you indicate that 1.5 of the 2.4 million acres are meeting or moving toward plan objectives. When will these objectives be achieved? If Range Management funding were to remain at FY 1995 levels, when would objectives be achieved? What would be the impact on achieving riparian objectives if the range management funding were reduced by 10%.

Answer. The answer to question 090. applies to answering this question.

You indicate the need to complete additional analysis and NEPA documentation prior to renewal of term grazing permits, many of which will expire by the end of 1996.

092. Question. Would you outline your strategy and schedule for completing this analysis and documentation, including any requirements beyond FY 1996.

Answer. There is a backlog of over 5,400 grazing allotments lacking comprehensive range analyses and associated documentation for compliance with NEPA and other environmental laws. This figure includes all allotments lacking comprehensive analyses, not just those with expiring permits. The Chief is currently implementing a strategy which ensures compliance with NEPA and other applicable laws and regulations in a timely and efficient manner and enables the Forest Service to issue new term grazing permits where appropriate. The strategy provides a framework against which each expiring permit can be assessed and categorized according to likelihood of adverse environmental effects of issuing a new permit. These categories allow the Agency to consider grouping permits for comprehensive analysis and evaluate several allotments at one time. New permits will be issued for all allotments where there are no adverse environmental effects or such effects can be mitigated. For allotments where analyses cannot be completed before the 1996 grazing season, analyses will be scheduled and shorter term permits issued to cover the intervening period. As scheduled comprehensive analyses are completed, new 10-year term permits will be issued at that time eliminating the need for further NEPA review and spreading out permit expirations in the future.

093. Question. Does your 1996 budget request include sufficient funds to complete this task? What level of funding within your base program as well as the requested program increase will be directed to this effort?

Answer. The requested level includes sufficient funding to complete analyses scheduled during 1995 permit issuance. If, based on FY 1995 experience, funding is inadequate in FY 1996 to meet analyses obligations, we will reprogram as necessary. The base program contains approximately \$2.1 million for project-level range analyses. The balance within the vegetation management line item is for obligations in noxious weed management and nonstructural range improvement. The requested program contains approximately \$15.5 million for project-level range analyses.

094. Question. Do you anticipate the preparation of environmental assessments (EAs) or more detailed environmental impact statements (EISs) as being necessary to meet NEPA requirements?

Answer. In most cases we anticipate an environmental assessment will suffice; however, final determination will be made at the field level.

095. Question. What will be the scope of individual environmental documentation? Will it be completed by allotment, Ranger District, Forest, or separate ecosystem? Based on this, how many individual assessments do you anticipate preparing?

Answer. This will vary depending on the most efficient means for completing required analyses and documentation. We anticipate maximizing efficiency by combining efforts in areas with similar resource conditions and considerations. It is not known how many individual assessments will be conducted or documents developed. Pending legislation that would limit the number of assessments an administrative unit can produce could negatively effect this efficiency.

096 Question. Will the ecological inventories and assessments completed in the Ecosystem Planning, Inventory, and Monitoring account be used in completing the environmental documentation required to renew term permits?

Answer. Not in most cases, since these funds may only be used for activities above the project level (i.e., integrated activity, often focusing on large geographic areas).

097. Question. Will additional inventories and assessments be required to complete the NEPA documentation? If additional data is needed, do you have the capability (both in terms of funding and time) to complete it prior to completing the necessary NEPA documentation?

Answer. In some cases, inventories and assessments specific to project-level range management decisions will have to be completed prior to NEPA documentation. This will not be required where adequate analyses were previously performed. At the requested level of funding, sufficient resources would be available to develop and adhere to a schedule for comprehensive analyses consistent with the Chief's strategy for issuing grazing permits in compliance with NEPA and other laws. Outyear funding levels will determine if the schedule is maintained.

098. Question. Will there be a similar need 10 years from now to complete new environmental documentation for term permits which will be coming up for renewal?

Answer. Not if adequate funding is available to maintain the schedule for allotment analyses under the Chief's strategy. In that strategy, new term permits will be issued as comprehensive analyses are completed, regardless of permit expiration date. Since the schedule will include any allotments lacking required analyses and NEPA documentation, expiration dates will become staggered as we work through the schedule. Subsequent permit issuance will not require additional NEPA documentation since NEPA analyses are performed on the grazing activity and not issuance of the permit.

099. Question. Are the bulk of Forest Service permits issued on a ten-year basis? Are some issued for shorter time periods? What is the rationale/criteria for the duration of grazing permits?

Answer. Most term grazing permits are issued for ten years at a time as prescribed by Sec. 402 of the Federal Land Policy and

Management Act of 1976 (FLPMA). Term permits may be issued for shorter time periods under certain circumstances, also described in FLPMA Sec. 402 (b) (1), (2) and (3). The rationale for ten-year permits is to promote stability in livestock operations dependent on public lands grazing.

100. Question. Will the Forest Service be proposing to adjust livestock use levels (either upwards or downwards) as part of the proposed action in the planned NEPA documentation.

Answer. Stocking adjustments are possible and will be determined on a case-by-case basis.

RANGE VEGETATION MANAGEMENT

An increase of over \$13 million is proposed for vegetation management. You indicate that this will be directed toward enhancement of resource conditions in the area covered by the President's Forest Plan, wild horse and burro management, noxious weed control, and range forage improvement.

101. Question. What level of funding increase will be directed to each of these areas and what will be accomplished?

Answer. Under the revised budget structure, funding directed to sub-elements of vegetation management, except the President's Forest Plan, is not displayed in the budget but will be determined by Forest Service regions. We anticipate the request will allow regions to fund these program elements at levels similar to FY 1994. That would indicate approximately \$800,000 for wild horse and burro management, \$900,000 for range forage improvement and \$2.3 million for noxious weed management. The President's Forest Plan will receive \$791,000 with the remainder, approximately \$15.3 million, directed to project-level inventory, analysis, planning, and monitoring in support of grazing management.

102. Question. What specific activities will be accomplished in the President's Forest Plan area?

Answer. Range management support to the President's Forest Plan includes \$231,000 for adaptive management areas, \$524,000 for "jobs in the woods", and \$36,000 for direct project costs. Adaptive management areas are designated to demonstrate innovative ways to integrate economic and ecological objectives; "jobs in the woods" provides funds for re-training and direct employment of individuals displaced by reduced timber harvest levels; direct project costs involve restorative site work.

103. Question. Will additional livestock use be authorized on the 65,000 acres identified for range forage improvement?

Answer. This will be determined on a case-by-case basis. Range forage improvement usually results in increased forage production which may result in additional forage allocation or may be used to alleviate stocking problems elsewhere. Increased forage resulting from such treatments often requires two or more growing seasons to stabilize before allocations are made.

104. Question. Are any of these activities necessary to accomplish the NEPA analysis or to reissue the grazing permits? Explain.

Answer. Project-level inventories, analyses, and monitoring are used to prepare required NEPA documentation prior to issuing grazing permits. However, these activities are not conducted solely to issue grazing permits. Inventories, analyses, and monitoring are used in developing management strategies for grazing allotments and to gauge progress toward meeting forest plan objectives. If a schedule for completing project-level analyses is developed, funded and adhered to, issuing term grazing permits will be much simpler.

105. Question. You cite additional land acquisitions in Nevada as the rationale for additional wild horse and burro funding. Was the acquired land previously subject to the Wild Horse and Burro Act? How many acres were acquired and what was the population of wild horses and burros?

Answer. Lands acquired through the Nevada Enhancement Act were formerly managed by the Bureau of Land Management and were subject to provisions of the Wild Horse and Burro Act. Approximately 692,000 acres were transferred to the Forest Service with a total population of approximately 1,000 horses and 200 burros.

106. Question. Does the removal of 550 to 600 wild horses and burros represent the annual population growth needed to sustain appropriate management levels or does it include the removal of additional animals which are in excess of appropriate management levels?

Answer. The removal of 550 to 600 animals does not quite curb annual increases for the total population. Horse and burro removal is conducted cooperatively with the Bureau of Land Management. For increased efficiency, each year animals are captured and removed from approximately one-fourth of the occupied territories in Nevada. Concentrating the effort brings each quadrant within desired herd levels on a rotating basis. Spreading the effort to all territories would be less efficient making it less likely to achieve desired population levels for any of the herds.

NOXIOUS WEED CONTROL

You indicate that noxious weed infestations occur on over 6.5 million acres of National Forest System lands and that they continue to spread. As you are aware, the spread of noxious weeds significantly impacts rangeland health, wildlife habitat, and forage productivity.

107. Question. What is the total level of funding being directed toward noxious weed control in FY 1996? How does this compare to FYs 1994 and 1995?

Answer. The amount of funding directed toward noxious weed management is determined by each Forest Service region. We anticipate regions will direct a total of \$2.5 - 3.0 million to noxious weed management. In FY 1994, \$2.2 million was spent on noxious weed management. In FY 1995, we expect regions to spend \$1.0 - 1.5 million performing required maintenance with few new treatments; issuing new term grazing permits is a higher priority for the limited funds available.

108. Question. Will the level of funding and treatment proposed for weed control in FY 1996 stop the spread of noxious weeds and result in a reduction in the total number of acres infested by noxious weeds? If not, how do you propose to address the noxious weed issue?

Answer. Gains are anticipated in controlling the spread of noxious weeds and in reducing the total number of acres infested. The figure of 32,000 acres planned for treatment includes only acres treated with range vegetation management funds. Forest service regions have the authority to fund noxious weed treatment from other appropriations such as range betterment funding and KV funds. Treatments are also accomplished cooperatively with grazing permittees and in association with timber sales, recreation developments, road construction, and other activities. The Forest Service is continually exploring ways to better cope with the pervasive problem of managing noxious weeds.

109. Question. You indicated that 2,700 structural range improvements such as fences and water developments and 65,000 acres of range forage improvements (exclusive of noxious weed control) are planned in FY 1996. Given the severity of the noxious weed problem, why doesn't the Forest Service direct a greater percentage of available project dollars to noxious weed control?

Answer. Forest Service regions determine the amount of funding that is available for noxious weed management. Since these funds primarily come from within the range management line item, regions must make difficult choices in setting work priorities for these limited funds. The regions acknowledge the severity of the noxious weed problem and commit as much as they reasonably can without having negative impacts on other elements of the range program.

110. Question. Also, how do you account for the reduction in noxious weed control since 1994 (32,000 acres planned for treatment in FY 1996 versus 49,000 acres treated in FY 1994)?

Answer. Only 30,100 acres were planned for treatment in FY 1994 (see FY 1995 Explanatory Notes). In the explanatory notes, projected accomplishments only include acres treated with noxious weed management funds (range vegetation management funds under the restructured budget). The actual accomplishment includes acres treated with funds from all sources. These include KV, Range Betterment, deposited co-op and other funds. We expect the FY 1996 accomplishment will exceed the target in a similar manner.

CONSTRUCTION OF FACILITIES

RECREATION CONSTRUCTION:

You indicate the agency had over \$800 million backlog of deferred recreation facility maintenance in FY 1994.

111. Question. What progress, if any will be made in FY 1995 and 1996 in reducing this facility maintenance backlog?

Answer. The recreation facility maintenance/reconstruction backlog at the end of FY 1994 is estimated at \$818 million. In FY 1995 and FY 1996, approximately 2%, or \$25 million in each year, is

targeted at reducing the recreation facility backlog. It might be noted that an inflation rate of only 3% a year would increase the recreation facility backlog by approximately \$24 million a year.

In addition, the agency has imposed a moratorium on new recreation building construction starts which will exceed \$250,000. Exceptions to this moratorium included Congressionally directed facilities. Our intent is to place the emphasis on addressing backlog and providing maintenance for the existing infrastructure.

112. Question. How does the \$25 million which will be targeted in FY 1996 to recreation facility maintenance compare to FY 1994 and 1995 levels?

Answer. In FY 1994, at a funding level for recreation facilities of \$81 million, approximately \$50 million was targeted at reducing the backlog. In FY 1995, at a funding level of \$52 million, approximately \$25 million was targeted for backlog.

113. Question. Given the magnitude of the recreation facility maintenance backlog, why are you directing only about 50% of the available funding in recreation construction to this problem?

Answer. A portion of each year's budget is necessary to address activities not defined as backlog, such as outyear planning and design, and program and contract administration. In addition, the budget provides for an investment in rehabilitation and reconstruction to maintain sites not currently dilapidated to below standards to prevent them from becoming a part of the agency's backlog.

The basic infrastructure, the size, and scope of the agency's developed sites program requires consistent maintenance, including reconstruction and rehabilitation, to address minimal quality standards while our facilities are receiving record level use.

Recreation facilities in the National Forest System (NFS) have a combined capacity of 1.8 million people at one time (PAOT). These facilities include campgrounds, swimming areas, picnic grounds, boating sites, interpretive sites, fishing sites, winter recreation sites, trailheads, playgrounds and parks, and observation sites. Many are old and suffer from a lack of maintenance. Twenty-seven percent are more than 40 years old. Fifty-one percent are over 20 years old. Of particular concern are sites and facilities near large population centers which receive high levels of use on a year-round basis. With reduced funding, the number of sites restored to standards simply can not keep pace with the deterioration of the old infrastructure.

114. Question. What is the rationale for the nearly \$5.5 million reduction from 1995 in recreation construction?

Answer. In establishing agency-wide priorities, we believe we have put forth a budget that balances the needs for all Forest Service programs within budget constraints and responds to our diverse mission of caring for the land and serving people with multiple benefits.

115. Question. What portion of the recreation construction budget is targeted for the construction of new facilities?

Answer. There are only three new building facilities proposed in the FY 1996 budget. These are: Hudson Meng in Region 2 at \$408,000; Newberry Caldera Portal in Region 6 at \$367,000; and Northern Great Lakes Visitor Center in Region 9 at \$965,000.

Priority is always given to the repair and renovation of existing facilities over construction of new facilities, except in situations where important ecosystem values and/or public safety is at risk.

ADMINISTRATIVE CONSTRUCTION

The budget justification indicates an emphasis in the Fire, Administration and Other Purposes Construction account will be to replace and rehabilitate offices, employee housing, buildings and other facilities, many of which were built prior to 1960. The National Park Service is also emphasizing these activities and is proposing to direct nearly \$40 million dollars to replace trailers used for employee housing throughout the National park system.

116. Question. How many trailer houses are currently being used throughout the Forest Service for employee housing?

Answer. There are currently 754 trailer houses being used for employee housing throughout the Forest Service.

117. Question. To what extent does the Forest Service currently use trailer houses for newly acquired employee housing, including seasonal housing and crew quarters?

Answer. There are 4,405 housing units throughout the Forest Service. Of those, 754 are trailer houses. The number of trailer houses used for housing is declining.

118. Question. Do you foresee a negative reaction by the public or Forest Service employees who are currently housed in trailers if funding is provided to the Park Service to replace trailers used for employee housing and similar funding is not provided to the Forest Service?

Answer. Negative reaction by the public or Forest Service employees, if any, will probably be localized, occurring in areas where there is both a Forest Service and Park Service presence.

119. Question. Are opportunities available to replace Forest Service trailer housing with other housing alternatives?

Answer. Yes, high priority needs will be addressed to the extent that the Construction for Fire, Administrative, and Other Purposes (FA&O) funding will allow. Funding opportunities are limited. Housing construction and replacement will be limited to providing family housing in isolated locations. Seasonal housing and crew quarters will be provided in areas where recruitment of seasonal employees is hampered by lack of affordable private housing.

The House and Senate FY 1995 Rescissions bill propose recreation and FA&O projects for rescission.

120. Question. Are any of these projects on the Forest Service backlog maintenance or reconstruction lists? If so, which projects?

Answer. All of the Fire, Administrative and Other (FA&O) projects proposed by the Senate for rescission are backlog.

Fire, Administrative, and Other:

Boulder Office, Arapaho-Roosevelt NF, CO
 FA&O change orders/claims Region 9
 St Ignace Administrative Site, Hiawatha NF, MI
 Job Corp, Region 8, three Ranger District Expansions
 Chalender Ranger Station, Kiabab NF, AZ
 Lake Tahoe Basin Management Unit, CA. SO
 Seeley Lake Warehouse, Lolo NF, MT
 Routt Office, Routt NF, CO
 Carson Office Expansion, Toiyabe NF, NV
 Hoonah Warehouse, Tongass-Chatham NF, AK
 Salt Lake District Office, Wasatch-Cache NF, UT

121. Question. Will rescission of these projects necessitate a revision of the facilities construction lists contained in the budget justification?

Answer. Yes, rescission of these projects, and the intent of Congress as to the future disposition of these projects, may necessitate revision to the FY 1996 facility construction lists.

You indicate a portion of the \$15.9 million increase for Recreation Management will be targeted to reduce the \$818 million backlog of deferred facility maintenance and for trail maintenance on over 54,000 miles of trails. However, the funding request for recreation construction is \$5,486,000 less than 1995 and the request for Trail Construction is \$6,212,000 less than 1995.

RECREATION O&M

RECREATION MANAGEMENT:

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122. Question. What is the difference in criteria for funding recreation facility maintenance and trail maintenance between the recreation management account and the construction accounts?

Answer. Trail maintenance versus trail reconstruction: Trail maintenance is considered to be any work not involving new construction and has rehabilitation costs less than 30% of the current average new trail construction cost for that region. Trail construction/reconstruction dollars are used for all new construction and any cost greater than 30%.

Recreation facility maintenance versus reconstruction: recreation maintenance backlog addresses rehabilitation and routine maintenance needs which keeps it from progressing to the point of disrepair and requiring major reconstruction. When we gather information from the regions on recreation facility backlog we do not separate backlog by maintenance and reconstruction.

123. Question. For all practical purposes, don't the decreases in the construction account more than offset the increase in the Recreation Management account?

Answer. The decrease of \$5.5 million in recreation facility construction and \$6.2 million in trail construction would offset by \$11.7 million the increase of \$15.9 million in recreation management. This would have to assume, however, that the entire increase in recreation management would be used towards facility and trail maintenance.

124. Question. To what extent does the portion of recreation site fee that is retained by the Forest Service to cover cost of collection (up to 15% of fees collected) cover collection costs? Do some collection costs exceed 15% of the fees collected?

Answer. In areas where we have done pilot tests on fee collection costs, it has shown that approximately 25% of fees collected would be required to cover costs. This has created a large disincentive to add sites to the fee system, as it takes funds away from operation and maintainance by diverting them to cover collection costs.

One of the recreation program focus areas in 1996 is the study and recommendation on additional rivers in the Wild and Scenic River System.

125. Question. How much is budgeted in support of this program during 1996?

Answer. Approximately \$2.1 million is provided in the FY 1996 Budget Request.

126. Question. How many rivers do you anticipate developing recommendations for inclusion into the Wild and Scenic River system in 1996?

Answer. In FY 1996 we will continue development of recommendations on 91 rivers.

127. Question. Which rivers have been recommended for Wild or Scenic designation since last year (in addition to the list provided to the Subcommittee last year)?

Answer. Wyoming: Yellowstone, Buffalo Fork, Gros Venture, Hoback, Greys, Salt River, and Green River; Idaho: Clearwater; North Carolina: North Fork Mills, South Fork Mills, and Mills River.

WILDERNESS MANAGEMENT:

While Wilderness Management is identified as an important Forest Service activity, funds for this program have been reduced by nearly 25% from 1995 levels.

128. Question. What is the rationale for this reduction?

Answer. The FY 1996 Budget Request includes an \$8 million increase for the Recreation Use budget line item (BLI), comprised of: Recreation Management (\$16 million increase in FY 1996)); Wilderness Management (\$12 million decrease); and Heritage Resources (\$4 million increase). The decrease in Wilderness Management is a reflection of (1) national priority setting in formulating the FY 1996 budget; and (2) the transition to the new Congressionally approved Forest Service budget structure. These factors are described below:

1. National Priorities: The operation and maintenance of Forest Service recreation facilities is a high priority budget need due to the continued growing public demand for recreation experiences on National Forests. Between FY 1990 and FY 1994, annual recreation visitor days (RVDs) for the Forest Service have increased by approximately 65 million. Of this increase, 2 million RVDs (about 3 percent) are associated with wilderness use. The Recreation Management budget has not kept up with the significantly greater public demand on non-wilderness recreation facilities. Many sites are old and suffer from a lack of maintenance. Twenty-seven percent are more than 40 years old. Fifty-one percent are over 20 years old. The Forest Service is addressing this situation through shifting funds within the Recreation Use BLI to Recreation Management (i.e., the \$16 million increase), expanding use of private sector investment in site development and management through the use of concession operations, volunteers, partnerships, and Challenge Cost-share, and charging user fees.

2. New Budget Structure: The FY 1996 Budget Request reflects preliminary FY 1995 funding levels to implement the new Congressionally approved budget structure and "benefiting fund" concept. FY 1995 Congressional direction established a process for Congressional review and approval of adjustments to these preliminary BLI/EBLI funding levels during FY 1995. The Forest Service is developing a reprogramming proposal to adjust FY 1995 funding levels, including Wilderness Management. Specifically, the preliminary FY 1995 funding level for Wilderness Management was overstated because support which this EBLI provides to other functions (e.g., Ecosystem Planning, Inventory, and Monitoring) was not fully accounted for and transferred to these "benefiting functions." This means the "decrease" in Wilderness Management funding reflected in the FY 1996 budget is also overstated; however, a real decrease still exists after these adjustments.

129. Question. What activities previously accomplished will be foregone?

Answer. The highest priority management needs for the 34.6 million acres will be addressed, including scientific, scenic, educational, conservation, historical and recreational uses. Planning for enhanced ecosystem management and appropriate standards and guidelines will be limited. There will be minimal project-level monitoring of pollution, exotic weeds and pests and other major threats to the wilderness system. Prescribed fire implementation will be reduced resulting in the wilderness continuing to exhibit heavy fuel loading, unnatural conditions and public safety concerns.

Trail maintenance for wilderness will provide for maintenance on 16,450 miles of the highest priority trails, 5,268 miles less than in FY 1995. This reduced maintenance may make some trails inaccessible. Reduced levels of funding will only provide for routine maintenance, including clearing the pathway of encroaching vegetation, correcting safety hazards, and light maintenance of trail tread, drainage structures, bridges, and signs. This level will not provide for any heavy maintenance and will result in increased outyear costs as this deferred maintenance becomes a need for reconstruction.

130. Question. What effect will this reduction have on the quality of wilderness experience by visitors to wilderness areas?

Answer. Every effort will be made to minimize the negative impacts to wilderness users in the short term. The effects of the reduction impact the users in the long term, as resource conditions on the ground degrade. An example is wilderness trails; the impact of the reduction may not be obvious to the users during this season. However, continued reduced maintenance levels will eventually make a trail unsafe or impassible to the user.

131. Question. To what extent are noxious weeds or other exotic vegetation present in wilderness areas?

Answer. Noxious weed infestation occur on over 6.5 million acres of NFS lands and continues to spread. Noxious weeds adversely affect many resources, including wilderness, wildlife, forage, visual quality, land values, and recreation opportunities. We do not have information on the acreage of wilderness with noxious weed and exotic weed infestations.

132. Question. What is being done to control their spread within wilderness areas? Are control activities funded from within this subactivity?

Answer. Efforts to control noxious weeds infesting National Forest System lands, including wilderness, continues. The control of noxious weeds requires coordination efforts by all affected landowners, and across all resource areas within the Forest Service. Control activities within wilderness includes the use of fire and hand control methods.

The majority of the funding for noxious weed control within wilderness areas would be funded from the wilderness budget line item. In addition, control activities would be funded by other benefitting Forest Service program areas. For example, Forest Service Range program would provide control activities and funding for noxious weed control in wilderness areas that are used for grazing.

Heritage Resources:

An increase of \$3.9 million (27% over 1995 levels) is proposed to provide for interpretive sites and materials; opportunities for public participation; public education; site protection, stabilization and restoration; and curation and treatment of collections.

133 Question. Specifically, what will be accomplished in these areas with increased funding?

Answer. The increase in Heritage funding will be used to increase the identification of important heritage resources in areas not directly affected by development activities. It will be used to increase the heritage management planning activities that permit the Agency to direct attention to the most important heritage resources, provide an increase in the number of preservation and stabilization activities to extend the life of important historic properties, and will allow an increase in the number of heritage properties available for public visitation and interpretation.

It will accelerate Agency efforts: to identify important American Indian traditional and cultural properties and develop plans for their management; implementation of the requirements of heritage regulations including the return of important American Indian items under Native American Graves Protection and Repatriation Act (NAGPRA); the protection of prehistoric sites; and the development of heritage education programs under ARPA.

134. Question. Since cultural surveys and clearances are completed prior to authorizing ground disturbing activities (through benefiting activity funding), won't heritage resources be adequately protected through the normal clearance/authorization process?

Answer. The protection of heritage resources from the project activities initiated by the Forest Service or by permits issued by the Forest Service extend only to heritage resources immediately threatened by that activity. It affords no protection to important resources that exist elsewhere on the National Forests and Grasslands which are threatened by vandalism, illegal collecting, erosion, wildfire, and deterioration. It also does not address the primary responsibility of preservation and enhancement of heritage resources for the public benefit as given to us in National Historic Preservation Act (NHPA) and ARPA. It is not the objective of the heritage program just to prevent the active destruction of important historic resources from the actions of the Agency or others, but to actively work to identify, preserve, stabilize, interpret, and provide public access to heritage resources. The public benefits from interpretation, visitation, and heritage experiences are not achieved from a passive protection program of project clearance. These benefits are achieved through an active program of identification, evaluation, and enhancement of important heritage resources throughout the National Forest System and not just in areas being threatened by development.

135. Question. To what extent will this increase be leveraged through the participation of volunteers?

Answer. The Forest Service's unique Passport in Time program produces nearly 120 heritage projects each year involving nearly 1,400 volunteers. The work done by these volunteers represents a 160 percent return on the Agency's investment. In addition to this internationally recognized program for volunteers, there are hundreds of other heritage projects that involve volunteers on a local basis in a wide variety of heritage activities, such as the "site steward" program on the Los Padres National Forest which uses

volunteers to monitor important archeological sites, and the "Volunteers in Archeology" program coordinated through the Modoc National Forest which places an international group of trained archeologists in Forests across the country. It is difficult to identify the total numbers of volunteers working in heritage each year, but the national programs produced nearly \$1 million in contributed services during FY94 against \$0.5 million in appropriated funds. Increasing the funding to support heritage manage projects can be expected to increase the amount of volunteer participation as well.

WILDLIFE AND FISHERIES HABITAT MANAGEMENT

WILDLIFE HABITAT MANAGEMENT

A decrease of \$1.7 million is proposed for wildlife habitat management.

136. Question. Will this reduction have any negative impacts on the condition of wildlife habitat or recreational opportunities related to wildlife?

Answer. Yes. Cutbacks will primarily occur in habitat restoration and improvement. Resulting reduction in populations will decrease recreational opportunities for hunting and viewing. Habitat improvement will be reduced about 18% below FY 95 levels, principally in sport hunting related species like deer, elk, sheep, quail, and grouse. Accomplishments for these species will be completed through challenge-cost share efforts, or be the result of integrated efforts such as prescribed burning, road closures for multi-species, etc.

In addition, reduction in habitat treatments, primarily burning, will contribute to declining forest health and increase in wildfire threats.

137. Question. What is the level of funding directed toward the development of new structures versus the maintenance of existing structures?

Answer. Specific data are not available to directly answer the question, but about 80% of the structural investment goes to maintain existing structures or install structures intended to have SHORT life spans. Twenty percent of the budget is directed towards development of long-term, more permanent structures. With funding near 47% of the field requests, priority is toward maintenance versus installing new, high maintenance structures.

138. Question. Why are there no FTE reductions associated with this funding reduction?

Answer. New data, compiled since the Explanatory Notes were developed, indicate reductions of about 10% in FTE's. Also, with recent hiring freezes and increased emphasis in salvage and range permit reissuance, available biologists will be used largely in support of timber and range programs.

You indicate that efforts to restore fire in adapted systems will be a priority at the proposed funding level.

139. Question. Does this entail the completion of prescribed fire projects or is it directed to changes in fire suppression policies?

Answer. The focus is on completing prescribed fire projects that improve wildlife habitat, reduce fuels and fire hazard, and improve forest health.

140. Question. What is the magnitude of planned fire management activities and how does this compare to previous years?

Answer. Under the proposed budget, about 90,000 acres are expected to be treated with prescribed fire. This represents an approximate 20% decrease from previous years regarding overall treatment, but an increase in the percentage of the program devoted to fire.

INLAND FISH HABITAT MANAGEMENT

An increase of \$3.3 million and an increase of 61 FTEs are proposed to fund watershed scale restoration and to expand recreational fishing opportunities.

141. Question. What specific efforts will be accomplished with this increase?

Answer. The majority of the increase is reflected in watershed restoration committed to in the President's Forest Plan in Region 6 and the development of Conservation Agreements to decrease the need to list the bull trout in Idaho and western Montana (Regions 1 and 4). Specific restoration activities include road reconstruction / maintenance and stabilization, replacement of fish passage barriers, basin-wide surveys and assessments, stream restoration, and riparian improvements. A second area of potential accomplishments is in the Challenge Cost-Share program specifically "Bring Back the Natives" and National Fishing Week/Aquatic Education efforts. Mitigation of recreational impacts in areas of high urban use areas (Region 2) will be secured with increased funding.

Given the proposed 61 FTE increase, nearly all of this funding increase will go to funding personnel.

142. Question. Aren't there operational costs, materials costs or any contract related costs associated with this increase? Explain.

Answer. There is a significant proportion of these funds that would be expended in contractual services and materials, especially in watershed restoration and the "Bring Back the Native" challenge cost share agreements. The calculation of a 61 fulltime equivalent position increase is not related to requested program dollar increases but a function of budgetary planning. The requested increase would result in a rate of one fish biologist for every \$150,000 - \$200,000 in total fisheries budget allocation. Subtracting salary would still leave a tremendous pool of dollars for operational costs, contracts, and services.

You indicate that challenge cost-share partnerships are extensively used to implement all aspects of the inland fish habitat management program.

143. Question. How will that be possible with the proposed increase without materials or operational dollars?

Answer. As previously discussed, the vast majority of the available funds would be available for contractual services, materials, and operational procedures.

144. Question. A decrease of \$2.4 million and 10 FTEs is proposed for the anadromous fish management program. With reference to the FY 1996 budget request history table, the agency requested \$27.4 million, which would be an increase of \$3.2 million above the FY 1995 level of \$24.1 million. For what was this requested increased intended?

Answer. The actual FY 1996 budget request was \$25.1 million which was a \$1.0 million increase over the FY 1995 level of \$24.1 million. This increase was requested to further implement Option 9 of the President's Plan and to implement the watershed analysis, monitoring, and restoration prescribed in the Environmental Assessment for the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and portions of California (PACFISH).

145. Question. How many FTEs were associated with the increase?

Answer. We have an increase of 30 FTEs which brings us to a total of 446.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES HABITAT MANAGEMENT

146. Question. In response to the recent interagency MOU how many conservation agreements do you anticipate developing in 1996? What species will be targeted?

Answer. We are currently working on more than 100 conservation strategies or assessments. We estimate that at least 30 of these projects will be far enough along to result in conservation agreements in 1996. These include efforts across all our regions. Several multi-regional efforts are underway including the northern goshawk, inland cutthroat trout, white-fringeless orchid, small forest carnivores, common loon, Bachman's sparrow, harlequin duck, spotted bat, trumpeter swan, and white-headed woodpecker. Several multi-species community projects are underway, including the Jemez Mountains, southwestern riparian, forest bogs, pin-oak heath, and upland longleaf pine-bluestem communities. A large number of localized or endemic plants and animals are also being worked on, including the Gila chub, Wood river sculpin, longnose darter, Caddo Mountain salamander, Websters salamander, Arizona bugbane, Catalina beardtongue, Huachuca water umbel, alkali primrose, Phute green-gentian and Alabama snow wreath.

This month we are signing a conservation agreement with the Fish and Wildlife Service, National Park Service and state agency cooperators including the Arizona Game and Fish Department, Utah Division of Wildlife Resources and the White Mountain Apache Tribe on the Arizona willow. The proposed rule to list this species was withdrawn given the completion of this agreement.

PACFISH

The Decision Notice and Findings of the No Significant Impact of the Final Environmental Assessment on PACFISH was signed on February 24, 1995. The decision amends the regional guides and forest land management plans. The Decision Notice established interim goals, objectives, and standards and guidelines for anadromous fish-producing watersheds. PACFISH was developed to halt the degradation and initiate recovery of Pacific salmon and steelhead habitats on federal lands administered by the Forest

Service and the Bureau of Land Management in Eastern Oregon and Washington, Idaho, and portions of California.

147. Question. What does PACFISH provide that has not been provided in the past?

Answer. PACFISH was developed to halt the degradation and initiate recovery of Pacific Salmon and steelhead habitats on federal lands administered by the Forest Service and Bureau of Land Management in Eastern Oregon and Washington, Idaho, and portions of California. PACFISH provides a common sense approach to promote a stable, predictable environment for land management activities in the region. The interim direction provides protection for anadromous fish habitat, while allowing economic activity that does not harm fish habitats. In addition, PACFISH provides a process to effectively and efficiently complete consultation on ongoing projects and activities in the Snake River Basin that may affect listed salmon or their designated critical habitat. It provides affected permit and contract holders with an opportunity to get directly involved should their operations require some modification. Through planning, PACFISH also provides a framework for development of future activities that should facilitate rapid consultation. Finally, PACFISH should help reduce the need for listing additional aquatic species under provisions of the Endangered Species Act. This will provide greater management flexibility in the long run, and less substantial impacts on dependent communities.

148. Question. How does PACFISH affect projects already underway?

Answer. PACFISH does not apply to all ongoing projects, but gives the Forest Service and Bureau of Land Management the flexibility to intervene where activities affect fish habitat adversely. The interim direction provides guidelines for determining the risk presented by the activity, and recommending where ongoing activities need to be modified to conserve fish habitat. The approach makes it possible for many activities to continue in their present form without adverse effect upon anadromous fish habitat.

149. Question. How will timber and range programs be affected?

Answer. The selected alternative applies interim direction to all new projects and activities, and to ongoing actions that pose an "unacceptable risk" to anadromous fish stocks and their habitats. The PACFISH Environmental Assessment estimated the primary effects of adoption of interim direction to be on timber, range, and recreational resources. Specifically:

Timber:

We expect deferment of planned or cancellation of active timber sales on 3 of 15 National Forests and 1 of 7 BLM Districts.

Timber yields would be reduced by 58 million board feet (about 4% of the total expected sale level during the interim period.).

This represents a foregone stumpage value of approximately \$7.8 million.

This impact would be concentrated in north-central Idaho (about 95% of the total impact).

Range:

Changes in livestock grazing would be widely spread across 13 of the National Forest and BLM units affected.

Individual unit changes range from under 5 percent to over 30 percent.

Total estimated changes in grazing represent a 6- to 12-percent decrease (i.e., about 42.1 thousand animal unit months) across all units affected by PACFISH.

The fair market value of the foregone grazing is about \$230,000.

150. Question. How is PACFISH impacting the use of private property in the Pacific Northwest? How many privately owned acres are being impacted?

Answer. PACFISH applies only to federal lands in anadromous fish-producing watersheds administered by the Forest Service and Bureau of Land Management in Idaho, Eastern Oregon and Washington, and portions of California. Specifically, PACFISH amends 15 forest plans and 7 BLM land use plans. PACFISH does not apply to private property in the Pacific Northwest; therefore, no privately owned acres will be impacted by this interim strategy.

ECOSYSTEM MANAGEMENT

Ecosystem management was adopted by the Forest Service in 1992. Since then the Forest Service has been appropriated funds to move forward with the ecosystem management concept.

151. Question. How many years does the Forest Service anticipate it will take to fully implement the concept and what will it cost?

Answer. Ecosystem management means using an ecological approach to achieve the management of national forests and grasslands by blending the needs of people and environmental values in such a way that national forests and grasslands represent diverse, healthy, productive, and sustainable ecosystems. It is a way of doing business, a philosophy. There is no end point at which time it could be said that the concept has been fully implemented. It is an ongoing ever-evolving process resulting in overall better decisions.

The process incorporates more information, at several scales over larger areas and requires additional complex analysis. Also, there are new components in the ecosystem management process that the Forest Service must learn about and incorporate in our normal agency processes. These changes are going to add costs relative to past procedures. However, after several years of dealing with ecosystem management, a "library" of information, particularly at larger geographic scales, will exist. This information can be used by many organizations and agencies and will not have to be re-created for each new project or issue. Once this information is in place and widely available, additional costs associated with ecosystem management processes should decrease.

152. Question. Do planning efforts under ecosystem management cost more than the current planning process? If so, why and how much?

Answer. Ecosystem management is a process used to understand, analyze and propose management (including no activities) for public land resources and resource values. It is a package of activities that should be applied by people to help understand the environment upon which they depend. This process can and will be applied to all land within the National Forest System. The ecosystem process is equally applicable and necessary for all lands and uses. Costs may increase, at least in the short run. However, it is unclear as to the amount and timing of costs. In the long run there will be savings due to the efficiencies of looking at larger areas than those involved in the current planning process.

153. Question. With the drastic budget reduction measures on the horizon, are any change of plans needed to keep ecosystem management alive and on course?

Answer. Continued support for the new budget structure to include the Ecosystem Planning, Inventory, and Monitoring line item will provide the flexibility needed in funding the ecosystem management work needed. Ecosystem Management is an ongoing ever-evolving process resulting in overall better decisions.

Reduced budgets may slow some activities but will not stop ecosystem management from being implemented. Examples could include hiring additional specialists like ecologists and geographic information specialists. Lower budgets may slow procuring geographic information system equipment for all units. Since ecosystem management initially involves much synthesis of existing information, which is both labor and time intensive, organizing the complex information may also be slowed.

As mentioned above, the costs associated with ecosystem management will be greater, in the short run. The process incorporates more information, at several scales over larger areas and requires additional complex analysis. This information can be used by many organizations and agencies and will not need to be re-created for each new project or issue. Once this information is in place and widely available, additional costs associated with ecosystem management processes should decrease.

The Congress approved the majority of the Forest Service budget restructuring proposal which was submitted with the FY 1995 request. As a part of this restructuring, the FY 1995 Interior Appropriations bill established an Ecosystem Planning, Inventory, and Monitoring line item (\$150 million) within the National Forest System appropriation. The purpose of the line item was to blend the needs of people and resource values in such a way that national forests and grasslands represent diverse, healthy, productive, and sustainable ecosystems. Planning, inventory, and monitoring funds were taken from various National Forest System line items to create the new ecosystem management budget element. As with all of the approved budget restructuring, the ecosystem management line item was to streamline the budget activities for line managers and to provide administrative efficiencies.

154. Question. Please update us on the progress of the budget restructuring, particularly the Ecosystem Planning, Inventory, and Monitoring activity.

Answer. Implementation of the approved budget reform elements has begun. FY 1995 will be a transition year from the agency's perspective because many of the managerial, accounting and measurement adjustments needed to successfully implement the new structure were still being developed when the fiscal year began. Implementation of the Ecosystem Planning, Inventory, and Monitoring line item is a case in point. While accounting codes are in place to track expenditures, development of new performance measures, definitions, codes and units of measure has not been completed. Field review and evaluation of preliminary definitions, measuring techniques and managerial implications are continuing and should result in improved operational definitions and measures for FY 1996.

155. Question. What accountability measures, reflecting the new budget structure, have been put in place?

Answer. The Forest Service has begun a phased implementation of the All Resources Reporting (ARR) system in FY 1995. ARR consists of a series of financial accomplishment and effects statements oriented to specific programs on National Forests. Two types of performance indicators have been established as part of ARR to improve accountability of Forest Service programs: Resource Cost Measures (indicators directly associated with specific programs) and Results of Integrated Management (indicators resulting from work done in multiple program areas or joint production functions). Most of these new measures link directly to the budget structure for the National Forest System (NFS).

For example, indicators associated with the Ecosystem Planning, Inventory and Monitoring budget line item are related to the major components of the budget line item. Specifically, indicators have been established to track the number of Forest Plans amended or revised, the number of assessments completed, the number of acres of integrated inventory conducted, and the number of monitoring reports completed.

Performance indicators related to higher-level agency goals (e.g., sustainability, land conditions, etc.) and non-NFS programs (e.g., measures of research or international forestry work) are also being developed. The Forest Service has begun documenting these goals, indicators and accomplishments in the annual performance plans and reports which are being prepared by the agency as a pilot for the Government Performance and Results Act (GPRA).

156. Question. What results and accomplishments are expected from the ecosystem planning, inventory, and monitoring activities?

Answer. The accomplishments associated with funding from the Ecosystem Planning, Inventory and Monitoring BLI consist of the integrated work needed to implement projects designed to protect ecosystems, restore deteriorated ecosystems, and to provide multiple benefits for people within the capabilities of ecosystems

The accomplishments for FY 1995 will be measured in terms of the major components of the line item. These include the collection or updating of integrated inventory information in support of large scale analysis and forest plans; completion of ecological assessments; completion, revision or amendment of forest plans and accomplishment of the associated monitoring and evaluation.

157. Question. When will the results and accomplishments be available to the Appropriations Committees and in what form?

Answer. The accomplishments associated with the Ecosystem Planning, Inventory, and Monitoring BLI, as with all the Management Attainment Results, will be available to the Committees after the information is compiled at the close of the fiscal year.

There have been expressions of frustrations by resource managers due to funds no longer being available to perform traditional planning, inventory, and monitoring activities. The ecosystem management funds are said to be under the complete control of land management planners.

158. Question. How are the ecosystem funds distributed? What organizations within each Region receive the money?

Answer. Ecosystem Planning, Inventory and Monitoring funds are distributed from the Washington Office to the Regions using criteria established through close coordination with resource managers and budget personnel both at the field, Regional and Washington Office levels. The allocation is based on the following factors: (1) the number of acres in each Region for integrated inventory and assessment; (2) the number of Forest Plans in each region that will to be monitored and evaluated; and (3) the number of new and ongoing Forest Plan revisions, or Forest Plan amendments that will be supported.

Allowance is made for the accomplishment of any Congressional Earmarks.

159. Question. When the land management planning (LMP) organizations were first put in place, the thought was that planning organizations would decrease when the Forest Plans were complete for the 10-15 year planning period and that the LMP organizations would increase when it was time for Forest Plan revisions. Have land management planning organizations decreased in size since the completion of forest plans? If not, why?

Answer. After the initial forest plans were complete, planning organizations in many areas decreased, and staff from other parts of the Agency who had been participating in forest planning returned to their original responsibilities. Planning staffs gained the new responsibilities of addressing forest plan appeals, amending forest plans, overseeing forest plan monitoring and evaluation, and updating inventories for use in future planning efforts. If particular planning staffs did not decrease, this was due to these additional responsibilities.

160. Question. Have traditional planning, inventory, and monitoring activities stopped? If not, who is responsible for

performing these activities and what funds are paying for these activities?

Answer. The agency is adjusting from past activities under functional approaches to more integrated approaches facilitated by the establishment of the Ecosystem Planning Inventory and Monitoring line item. It is expected that improved operational definitions and guidance will be developed for Integrated Resource Inventories in FY96. While some need will still exist for particular types of single program inventories (to provide for specific items not part of integrated approaches or for information specific to certain areas) in addition to that provided from integrated efforts, it is expected that a significant shift toward common, integrated approaches will be seen in the next year.

If the primary purpose of the monitoring and inventory is to provide information for, and support the development of, revision or amendment of Forest Plans, Regional Guides or large-scale assessments, and the information is collected in any integrated way rather than resource by resource, it can legitimately be charged to the Ecosystem Planning Inventory and Monitoring line item. If the primary purpose is to identify potential projects, do project planning, or conduct implementation actions, or if it is done only to provide information for a particular resource, it is paid for by the benefiting resource.

ECOSYSTEM MANAGEMENT AND TIMBER SALE COSTS

161. Question. Ecosystem management brings greater complexity in forest planning, project design, field layout, and implementation. Will these activities increase agency costs? Explain.

Answer. Ecosystem management is a process used to understand, analyze and propose management (including no activities) for public land resources and resource values. As stated above, costs will probably increase, at least in the short run. However, it is unclear as to the amount and timing of costs.

162. Question. Explain how the ecosystems management efforts affect the cost of timber sales.

Answer. Current experience shows that ecosystem management activities have increased overall costs. The cost increases fit into two categories including (1) direct costs associated with additional planning and analysis and (2) indirect costs associated with the move away from clearcutting to more complex silvicultural treatments.

However, the timber program will not bear the entire cost of ecosystem management. To the extent practical, joint costs will be allocated between programs--as an example, where multi-resource inventories are used, only a portion of the cost will be allocated to the timber program. Along with the additional costs, we also anticipate additional benefits from timber sales designed under ecosystem management principles. By using timber harvest as a management tool to help us sustain healthy ecosystems, we can improve benefits to other resources, such as wildlife, in a cost efficient manner. While these benefits do not show up on the profit and loss scale, they are designed results of management included in forest plans.

We are currently exploring alternatives to the Timber Sale Program Information Reporting System (TSPIRS) that will help to explain the full range of costs and benefits associated with timber sales.

163. Question. In Region 6, timber production unit costs have gone from \$38.88/MBF to an anticipated \$168.86/MBF in FY 1996. Does the Forest Service anticipate that ecosystem management activities will drive the cost of timber sales even higher?

Answer. No. We do not anticipate ecosystem management will drive the cost of timber sale preparation higher. As we learn to plan and implement activities under ecosystem management concepts, costs should decline. The creation of the ecosystem inventory, planning, and monitoring line item removed the costs for these activities from the timber sales management line item. Therefore, the older and lower unit rate quoted above would include these activities but the higher rate would not. All of the cost increases identified in the question can not be attributed to implementing ecosystem management. However, some additional costs related to sale design and individual projects may occur. The unit rates quoted for Region 6 include sale preparation dollars to restore the timber sale pipeline in order to fully implement the President's Plan in FY 1997. Had the divisor been the 1,000 million board feet the region is funded to prepare, and not the 798 million board feet that we estimate will actually be offered for sale, the unit rate would have been \$105.37, not \$168.86/MBF. The \$168.86 quoted in the question is the FY 1995 unit rate. The FY 1996 rate is about \$119.00/MBF.

164. Question. Will there be more below-cost timber sales due to the ecosystem activities?

Answer. The number of and amount of volume harvested in below-cost timber sale programs is dependent on three primary factors including program expenses, timber prices, and the amount of volume harvested in the timber commodity program component as opposed to the forest stewardship program component. Timber commodity harvest is that harvest designed to provide wood to help meet demand. Forest stewardship harvest is designed to achieve non-timber resource or ecosystem health objectives by managing the composition and distribution of forest vegetation. The Forest Service defines below-cost timber sale programs as those producing a net revenue loss in the timber commodity component.

In monitoring the below-cost timber sale situation, we also need to recognize the non-monetary benefits provided by sales. The Forest Service strives to conduct its operations in a manner that maximizes net public benefits. Not all costs and benefits have a monetary value associated with them. As an example, some timber sales are specifically designed to improve habitat for endangered wildlife species or to restore ecosystems to healthy and productive conditions. These are benefits that cannot be assigned monetary values. In addition, some sales will produce environmental costs, such as stream siltation, that are not measured in monetary terms. When we make decisions about timber sales and timber sale programs, we must weigh all of the costs and benefits, both monetary and non-monetary, to arrive at strategies that maximize net benefits to the public.

Under ecosystem management, we expect a higher proportion of harvest to fall in the forest stewardship component, which would not be subject to a below-cost determination. As a result, any increased costs associated with ecosystem management would primarily affect the forest stewardship harvest or non-timber programs. However, they could also affect timber commodity harvest costs to a lesser degree. Ecosystem management could also affect timber prices, depending on the species, size, and concentration of trees harvested. If changes in cutting methods produce a negative effect on purchaser logging costs, prices will be reduced as a result. In addition, forest health initiatives that require thinning in dense stands of smaller trees, will produce lower prices in the short term. However, these sales are normally in the forest stewardship component and the remaining trees will generally be more valuable in the future due to resulting increased growth rates. Given these relationships, it is difficult to estimate the combined effect, but there could be a slight increase in below-cost sales (in the timber commodity component) due to increasing costs.

ECOSYSTEM ASSESSMENTS

165. Question. Can you confirm that the Administration wishes to conduct 19 separate ecosystem assessments across the country in the next several years? If so, please list those areas for the Committee? How much will this effort cost? Are these studies prioritized? If so, what are the priorities? How will this effort delay completion of revised or amended forest plans? How will it affect plan implementation?

Answer. The Forest Service plans to be involved in three separate ecosystem assessments in FY 1996.

Ecosystem assessments funded out of the Ecosystem Planning, Inventory and Monitoring Budget Line Item determine the condition of the nation's ecosystems and serve as a source of information to be used later when making resource decisions. Ecosystem assessments may be used to provide information that indicates a need to initiate forest plan amendment or revision procedures.

The large-scale assessments with national priority are: (1) The Interior Columbia River Basin Ecosystem Assessment (which is part of the Interior Columbia River Basin Ecosystem Management Project), (2) the Southern Appalachian Assessment and (3) the Great Lakes Assessment.

These efforts vary in cost. The Forest Service NFS portion of costs in FY 96 for the assessments are: (1) Interior Columbia River Basin Ecosystem Management Assessment \$497,000 (two Environmental Impact Statements based on the information from this assessment, with their additional costs, are part of the Interior Columbia River Basin Ecosystem Management Project); (2) Southern Appalachian Assessment \$250,000; and (3) Great Lakes Assessment \$260,000. The assessments are listed in order of national priority.

Ecological assessments provide a comprehensive description of ecosystem structures, processes, and functions of an area. Assessments are not decision documents, nor are they required as a precursor to resource decisionmaking. However, by providing information to address issues which are larger in scale than a single forest or project area, assessments are more cost effective than are repeated independent efforts to address these issues.

Assessments are not expected to delay completion of forest plan revision or major amendment. In fact, such assessments should facilitate updating forest plans by providing information needed for such efforts. Forest plan implementation will proceed while assessments are being completed.

We believe the "19 separate ecosystem assessments across the country" you refer to in this question are actually the "19 of 20 regional large-scale ecosystem research studies initiated in FY 1994" proposed for continuation in the Forest Research section of the FY 1996 Forest Service Explanatory Notes (page 4-27, third paragraph).

These 19 studies are not ecosystem assessments. They are broad-based large-scale research studies established in FY 1994 and are designed to provide the applied and fundamental knowledge and technology to apply sound forest management and ecological principles to manage all lands, regardless of ownership.

These large landscape-scale research studies are providing scientific and technical information critical to improving forest health and sustaining forest productivity for wood fiber, water, forage and other benefits and values on public and private lands. They are focused on studying different management systems that could help to meet society's demands for forest products while also allowing for recreation, improved forest health, protection of fish and wildlife, and other land uses and values. Continuation of these studies is one of the highest priorities within the forestry community for solving the land use and management issues that we face today. Ecosystems research is studying many of the resource use and protection issues that must be resolved at the larger landscape level and over long periods of time.

Funding for continuing these 19 two-year-old research studies is proposed at \$5,912,000 for FY 1996 and includes cooperative efforts with several national forests, universities and industry. The Forest Research studies that will be continued under the FY 1996 proposed President's Budget are as follows:

NE-1: Managing New England Ecosystems to Restore Atlantic Salmon Habitat, Amherst, MA

NE-3: Restoration of Mixed-Oak Forests in Southern Ohio, Delaware, OH

NC-1: Assessing Impacts of Disturbance in Central Hardwood Ecosystems, Columbia, MO

NC-4: Impacts of Silvicultural Treatments on Biological Diversity in Northern Hardwood Ecosystems, Rhinelander, WI

FPL-4: Options for Wood Utilization Removed Under Ecosystem Management Regime, Madison, WI

SE-1: Southern Appalachian Ecosystem Management, Asheville, NC

SE-2: Longleaf Pine Ecosystem Restoration, Auburn, AL

SO-1: Ouachita Mountains Ecosystem Management Research Project, Hot Springs, AR

SO-3: Wetland Hardwood Forest Ecosystem Research and Management Project, Stoneville, MS and Charleston, SC

SO-4: Developing and Implementing Ecologically Sensitive and Economically Feasible Forest Operations - The Alabama Consortium, Auburn, AL

IITF-1: Luquillo Riparian Ecosystem Management Project, Rio Piedras, PR

RM-1: Watershed Processes, Riparian Zone Responses, and Biological Diversity of the Rio Grande Basin, Albuquerque, NM

RM-3: Front Range Ecosystem Management Research Project, Fort Collins, CO

RM-4: Achieving Ecosystem Management in the Borderlands of the Southwestern United States through a Coordinated Research/Management Partnership, Flagstaff, AZ

INT-1: Bitterroot Valley Landscape Research and Management: An Interdisciplinary Project Proposal to Enhance Social Values in an Altered Ecosystem, Missoula, MT

INT-2: Great Basin Interdisciplinary Research and Management Project: Maintaining and Restoring Riparian Ecosystem Integrity, Reno, NV

PNW-1: Silvicultural Alternatives to Clearcutting in the Old-Growth Forests of Coastal Alaska, Juneau, AK

PSW-1: Kings River Ranger District Sustainable Forest Ecosystem Studies, Fresno, CA

PSW-2: Blacks Mountain Interdisciplinary Research and Management Project, Redding, CA

166. Question. What steps will the agency take to insure that ecosystem assessments do not duplicate the analysis and decisions made in the pending forest plan revisions? Which will drive the planning process, the forest plans or the assessments?

Answer. The agency makes a clear distinction between ecosystem assessments and resource decisionmaking. An assessment is not a decisionmaking effort and does not result in a resource decision. It is a process by which information is gathered and synthesized to enhance an understanding of ecosystems. Assessments do not trigger NEPA analysis nor do the results of assessments substitute for NEPA analysis and disclosure documents. Forest plan revisions must follow both the National Forest Management Act (NFMA) requirements and the NEPA requirements for analysis and disclosure of environmental effects. Information provided by assessments, when available, is intended as one, but not the only, source of information to be used when making resource decisions. Findings of an assessment will not be used to substitute for forest plan goals, objectives, standards, or guidelines, nor used to identify preferred or desired alternatives or outcomes. Assessments may be used to identify opportunities for achieving goals and objectives that have already been established by law, Executive order, regulation, agency directive, or the forest plan.

The agency is currently conducting the Upper Columbia River and Southern Appalachian ecosystem assessments. These are not forest plan analyses, and the budget notes indicate that no regional guides are under revision in 1996. The final product from the Columbia River Basin assessment is an environmental impact statement (EIS). This is much more than inventory and information gathering - this is a NEPA decision document.

167. Question. Is the Forest Service conducting an illegal planning analysis above and beyond the NFMA regulatory requirements?

Answer. The Southern Appalachian assessment does not include an EIS. The results from the Southern Appalachian assessment will be used as an information source when amending and revising individual forest plans as needed.

There are five products associated with the Interior Columbia River Basin Ecosystem Management Project, including: (1) a scientific framework for ecosystem management; (2) a scientific assessment for ecosystem management; (3) the Eastside EIS for the eastside of Washington and Oregon; (4) the Upper Columbia River Basin EIS for Idaho and western Montana, western Wyoming and portions of Nevada and Utah; (5) and a scientific evaluation of EIS alternatives.

The Project is consistent with, and guided by, current Forest Service and BLM planning laws, regulations and processes. Conditions in the Interior Columbia River Basin have indicated a possible need to update management direction. This can most effectively be done using information from an assessment on a larger scale than an individual forest. It would be more efficient to analyze environmental effects on a scale larger than the individual forest. Based on the analysis and disclosure of environmental effects in the EIS's, the responsible officials in the Forest Service and BLM may decide to simultaneously amend forest plans and modify the BLM State Director's Guidance through the Records of Decision for the EIS's. Such simultaneous amendment of forest plans is not illegal nor contrary to the NFMA regulatory requirements.

168. Question. Are the Columbia River assessment and EIS a model for ecosystem studies in the rest of the country?

Answer. Ecosystem studies are conducted at various scales, based on the scale of the ecosystem being analyzed. Many ecosystem studies are done at scales much smaller than the Interior Columbia River Basin. The assessment from the Interior Columbia River Basin Ecosystem Management Project and Southern Appalachian assessment are two large-scale ecosystem studies. From them, the agency is learning about large-scale ecosystem analysis. National assessment protocols are being developed and these two assessments will be a testing ground for the protocols. Based on what is learned, the agency can adapt to find the most effective and efficient way to conduct large-scale assessments.

169. Question. Is the Upper Columbia River assessment critical to the environmental analysis necessary to complete timber sale and range programs on national forests in Eastern Washington, Eastern

Oregon, Idaho, and Western Montana? What questions are being asked in the assessments? Will these assessment questions help to solve issues?

Answer. The assessment is not necessary to complete individual timber sales or range programs on the affected national forests. However, the information being provided by this assessment on issues such as salmon, where information is needed on habitat and behavior across the entire basin, may be used in modifying forest plans and in future project decisions as needed.

The Assessment will characterize and assess the landscape, ecosystems, social and economic processes and functions, and describe the probable outcomes of continued management practices and trends. The following questions will be addressed:

What are the social and economic relationships with federal natural resource management?

What are the current health conditions of forest and rangelands in the basin?

What are the biophysical limits of systems given past and potential future human interactions?

What are the status of various plant and animal communities and aquatic ecosystems in the basin.

The EIS's associated with the project will also address the question of the risks, tradeoffs, and consequences associated with various alternative management practices.

The answers to these questions will provide information that can be used, if appropriate, in amending forest plans and making resource decisions on projects, and thus help to resolve issues.

170. Question. The budget justification mentions assessment of private lands. If the Forest Service has no jurisdiction over private lands, how does the assessment impact private lands?

Answer. Ecological assessments gather information to enhance understanding of ecosystems, and the area covered by an assessment is defined by ecosystem areas instead of by jurisdictional or administrative boundaries. In order to make decisions for National Forest System lands, the agency believes it is important to be knowledgeable of the conditions on non-Forest Service lands within an ecosystem being studied. This is considered an essential part of taking an ecological approach to management of National Forest System lands. In no way, however, would the agency impose resource decisions of the Forest Service on private lands.

Assessments use information about non-Forest Service lands to the extent such information is in the public domain or is willingly shared by other owners and managers. Assessments can involve the public, other Federal agencies, State and local governments, and tribal governments to the extent to which these wish to be involved. Private landowners can participate on a voluntary basis if they so desire.

171. Question. This seems like an endless, very expensive chain of studies. An assessment is done, the assessment says more information is needed, and another study needs to be funded to obtain that information. When do we get sufficient information to make a decision and implement projects? Where is the cost efficiency in the assessment process?

Answer. As indicated earlier, ecosystem assessments are not required as precursors to resource decisionmaking. When the agency decides to gather information through assessments, it is because it has been determined that knowledge gained from overarching regional or area assessments of economic, ecological and social interactions will enhance management decisions for the affected national forests. The information that is developed from assessments is also available for use by other interested parties. Assessments should provide the technical underpinnings that will allow either amendments to or revisions of forest plans in a manner that should yield economies of scale and facilitate a much condensed time frame of achievement.

172. Question. The Forest Service budget request includes \$4.6 million for the Columbia River Basin initiative. What are the funding sources - Forest Research, State and Private Forestry, National Forest System budget line items?

Answer. The funding for the \$4.6 million for the Columbia River Basin initiative will come from National Forest System budget line items. There are no Research or State and Private funds identified for FY96.

173. Question. It is my understanding that the Columbia River Basin assessments will be completed by the end of FY 1996. Will the Walla Walla facility be permanently closed and the staff laid off?

Answer. While the EIS and Record of Decision will be completed by the end of FY 1996, it is anticipated that demobilization of the project will be completed by the end of calendar year 1996. This 3-month period will focus on technology transfer and close down of the operations. Personnel assigned to the project have been drawn from units throughout the Forest Service and Bureau of Land Management. These personnel will be placed in positions within the two agencies. It is expected that a large portion of these people will be directed to positions associated with implementation of the Record of Decision.

PERFORMANCE MEASURES

The understanding during the FY 1995 appropriations process was that the Forest Service would be working with external groups, including Congress, to review and refine agency performance measures.

174. Question. What is the current status of that coordination effort? What groups participated? At what stage will input from Congress be sought and considered? Will a formal public involvement process be included as part of this process?

Answer. In it's FY 1995 Budget Reform Proposal, the Forest Service indicated that it would continue to test and refine existing performance measures and develop new measures, as needed,

to better reflect achievement of goals and objectives related to the mission of the agency. This ongoing evaluation would include coordination with all of the agency's customers, partners and other interested external groups.

Review and refinement of existing performance measures is occurring through a number of ongoing efforts, including All Resources Reporting (ARR), the annual performance plans and reports that are being prepared under the pilot authority of the Government Performance and Results Act (GPRA), and reporting requirements of the Chief Financial Officers (CFO) Act and the Resources Planning Act (RPA). Individual staffs are working with field personnel and, in some instances, with specific external customers (e.g., fish and wildlife organizations). Development of new measures is also occurring using similar approaches.

To facilitate both internal and external coordination as well as the review of performance measures, the Forest Service has initiated a project to develop a Corporate Performance Measurement System. The team assigned this task has established a hierarchical framework for arranging agency goals, measures and indicators. The evaluation of existing goals and measures will result in the identification of areas either lacking measures or having too many.

A Draft Involvement Plan has been developed for this effort. The goal of this plan is to maximize opportunities for internal and external organizations and individuals to participate in the development of a Corporate Performance Measurement System for the Forest Service. A schedule of specific involvement opportunities for all customers, including Congress, is being developed. The developmental work associated with the system is expected to be completed in FY 1996 and most external contacts should occur in late FY 1995 and early FY 1996.

Some preliminary coordination work has also occurred with other federal agencies. The Forest Service has been working with the Bureau of Land Management to identify common measures and coordinate approaches to working with external groups. In May 1995, both agencies jointly sponsored a "Roundtable" discussion on performance measurement with a number of other agencies having responsibilities related to the use or management of natural resources. Future meetings on this subject are planned.

At last year's Forest Service hearing we were told that the performance measure development and refinement will be a long-term evolutionary process. It was pointed out that new measures would need to more accurately reflect performance associated with implementation of ecosystem management.

175. Question. When can we expect to see some results of the performance measure development?

Answer. The development and refinement of performance measures is evolutionary, but some progress has already been made within the Forest Service. As part of the implementation of All Resources Reporting (ARR) in FY 1995, the agency has incorporated an expanded set of performance measures in the budget direction to field units. Data related to these measures will be compiled at the end of the fiscal year and ARR financial and results statements will be developed.

As mentioned above, annual performance plans for FY94 through FY96 as well as year-end reports for FY94 have been developed. Each contain information on agency goals and performance measures. The Corporate Performance Measures effort will provide a further evolutionary step towards identifying and organizing key goals and measures and determining the need for further development and refinement of measures. This effort should yield some results in late FY 1995 or early FY 1996. These will be shared with all agency customers and partners, including the Congress.

ORGANIZATION ADJUSTMENTS

Organization downsizing and streamlining has become a way of life for the agencies under the jurisdiction of the Interior Appropriations Subcommittee. Program and funding changes have resulted in the need for the Forest Service to adjust its organization over the last few years. With the new Congress, the agency has found not only that there is less money but program priorities have changed. It is important that within the agency employees recognize that changes are currently taking place as evidenced by the FY 1995 Rescissions bill action.

176. Question. With respect to the organization structure, how does the agency intend to respond to the new program priority changes?

Answer. The Forest Service along with the Department is committed to achieving efficiencies in our various headquarters offices and functions, to reducing numbers of personnel at the headquarters level to enable retaining the maximum number of people at the field level, and to promoting more effective resource management through integrated regional leadership. Emphasis will be placed on training of employees to allow them to efficiently and effectively perform good resource management in all funded areas.

177. Question. Will FTE adjustments reflect program funding levels?

Answer. Yes. FTE levels by individual program will be adjusted based on the funding level received.

178. Question. Is the agency committed to following the direction as provided by Congress? By what means will the new direction be given to the field?

Answer. As has been stated by both Under Secretary Lyons and Forest Service Chief Thomas the Forest Service will follow the laws that have been enacted. This message has been conveyed to all Forest Service employees by Chief Thomas.

Organization downsizing and streamlining has become a way of life for the agencies under the jurisdiction of the Interior Appropriations Subcommittee. Program and funding changes have resulted in the need for the Forest Service to adjust its organization over the last few years. With the new Congress, the agency has found not only that there is less money but program priorities have changed. It is important that within the agency employees recognize that changes are currently taking place as evidenced by the FY 1995 Rescissions bill action.

179. Question. The FY 1996 FTE level is 40,473, a reduction of 239 from the FY 1995 level of 40,712. Is this a firm FTE target for FY 1996? How will the Forest Service achieve its downsizing goal?

Answer. The Forest Service expects to satisfy the Administration's FTE reduction goal for FY 1996 through normal attrition in the workforce and delayed departures as a result of buyouts.

180. Question. What changes in fixed costs are occurring as a result of organization changes and downsizing efforts? What steps have been taken to ensure fixed costs reflect these changes?

Answer. As the recommendations of the Secretary of Agriculture's reorganization proposals are approved and implemented, we anticipate savings in fixed costs. However, such savings are directly related to the recommendations selected. For example, there will be opportunities to reduce related fixed costs if unit consolidations occur.

In addition, the Forest Service is studying opportunities within existing authorities to lower fixed costs. We are consolidating units, closing offices, and moving to smaller offices or buildings. For example, the consolidation of the Jefferson and George Washington National Forest Headquarters will allow the Harrisonburg Office (the former headquarters for the George Washington National Forest) to significantly reduce in size. Another example is the consolidation of the Biloxi and Black Creek Ranger Districts in Mississippi which will allow us to close one office entirely. On the Plumas National Forest in California, we recently closed two district offices and are working to close a third office.

181. Question. Please provide, for the record, the number of permanent and temporary employees by Washington Office Deputy area, Region without the Regional Office, Regional Office by Region, Regional total, Research Station by Station, State and Private Forestry Area, and International Forestry organizations for the past 6 years.

Answer. The requested information follows:

Forest Service Employment - by Organizational Level
(as of May 15, 1995)

REGIONS	FY	PERM			OTHER			TOTAL		
		RO	FIELD	TOT	RO	FIELD	TOT	RO	FIELD	TOT
Region 1	90	455	3024	3479	74	3391	3465	529	6415	6944
	91	458	3164	3622	94	3266	3360	552	6430	6982
	92	467	3146	3613	105	3611	3716	572	6757	7329
	93	450	3075	3525	78	3344	3422	528	6419	6947
	94	444	2961	3405	69	3153	3222	513	6114	6627
	95	392	2533	2925	64	2545	2609	456	5078	5534
Region 2	90	254	1595	1849	49	1813	1862	303	3408	3711
	91	267	1694	1961	52	2049	2101	319	3743	4062
	92	280	1794	2074	59	2142	2201	339	3936	4275
	93	271	1793	2064	55	2126	2181	326	3919	4245
	94	262	1745	2007	66	1960	2026	328	3705	4033
	95	239	1493	1732	32	1400	1432	271	2893	3164
Region 3	90	309	1894	2203	55	1965	2020	364	3859	4223
	91	327	2005	2332	49	1912	1961	376	3917	4293
	92	334	2042	2376	52	1699	1751	386	3741	4127
	93	328	2018	2346	49	1746	1795	377	3764	4141
	94	310	1983	2293	46	1819	1865	356	3802	4158
	95	264	1743	2007	38	1360	1398	302	3103	3405
Region 4	90	358	2045	2403	36	2404	2440	394	4449	4843
	91	364	2124	2488	38	2360	2398	402	4484	4886
	92	374	2238	2612	28	2478	2506	402	4716	5118
	93	381	2253	2634	27	2617	2644	408	4870	5278
	94	371	2240	2611	24	2762	2786	395	5002	5397
	95	328	2019	2347	23	1976	1999	351	3995	4346
Region 5	90	524	5579	6103	53	5694	5747	577	11273	11850
	91	530	5686	6216	75	5696	5771	605	11382	11987
	92	528	5537	6065	71	5816	5887	599	11353	11952
	93	540	5306	5846	66	5467	5533	606	10773	11379
	94	519	5031	5550	75	4685	4760	594	9716	10310
	95	448	4473	4921	61	3764	3825	509	8237	8746
Region 6	90	593	7644	8237	79	7423	7502	672	15067	15739
	91	604	7359	7963	76	6566	6642	680	13925	14605
	92	567	7284	7851	56	6616	6672	623	13900	14523
	93	561	6935	7496	45	6080	6125	606	13015	13621
	94	514	6464	6978	24	5191	5215	538	11655	12193
	95	442	5341	5783	18	3685	3703	460	9026	9486
Region 8	90	463	3661	4124	38	1006	1044	501	4667	5168
	91	466	3821	4287	45	1083	1128	511	4904	5415
	92	469	3916	4385	48	1099	1147	517	5015	5532
	93	457	3869	4326	66	899	965	523	4768	5291
	94	433	3750	4183	43	702	745	476	4452	4928
	95	378	2895	3273	29	420	449	407	3315	3722
Region 9	90	217	2295	2512	17	832	849	234	3127	3361
	91	200	2333	2533	10	835	845	210	3168	3378
	92	195	2394	2589	14	939	953	209	3333	3542
	93	176	2404	2580	15	869	884	191	3273	3464
	94	171	2350	2521	11	759	770	182	3109	3291
	95	148	1950	2098	7	555	562	155	2505	2660
Region 10	90	241	666	907	25	449	474	266	1115	1381
	91	234	700	934	26	414	440	260	1114	1374
	92	238	774	1012	30	439	469	268	1213	1481
	93	240	787	1027	31	473	504	271	1260	1531
	94	225	768	993	27	476	503	252	1244	1496
	95	199	721	920	10	268	278	209	989	1198

Forest Service Employment - by Organizational Level
(as of May 15, 1995)

RESEARCH	FY	PERM			OTHER			TOTAL			
		RO	FIELD	TOT	RO	FIELD	TOT	RO	FIELD	TOT	

INT	90			222			64			286	
	91			238			74			312	
	92			257			86			343	
	93			254			113			367	
	94			240			121			361	
	95			234			123			357	
NC	90			221			71			292	
	91			234			86			320	
	92			242			97			339	
	93			239			97			336	
	94			229			116			345	
	95			214			101			315	
NE	90			333			87			420	
	91			334			123			457	
	92			349			148			497	
	93			351			110			461	
	94			325			132			457	
	95			319			124			443	
PNW	90			300			149			449	
	91			295			166			461	
	92			310			182			492	
	93			300			201			501	
	94			301			199			500	
	95			298			222			520	
PSW	90			207			163			370	
	91			222			178			400	
	92			232			171			403	
	93			230			194			424	
	94			214			180			394	
	95			216			184			400	
RM	90			186			74			260	
	91			198			80			278	
	92			211			114			325	
	93			212			105			317	
	94			200			95			295	
	95			195			69			264	
SE	90			276			62			338	
	91			298			72			370	
	92			311			83			394	
	93			312			78			390	
	94			310			68			378	
	95			297			71			368	
SO	90			285			80			365	
	91			299			78			377	
	92			317			71			388	

Forest Service Employment - by Organizational Level
(as of May 15, 1995)

<u>RESEARCH</u>	FY	<u>PERM</u>			<u>OTHER</u>			<u>TOTAL</u>		
		RO	FIELD	TOT	RO	FIELD	TOT	RO	FIELD	TOT
	93			295			56			351
	94			251			45			296
	95			236			66			302
FPL	90			292			52			344
	91			303			62			365
	92			315			66			381
	93			311			77			388
	94			284			81			365
	95			281			72			353
<u>IITF</u>										
IITF	93			40			18			58
	94			59			13			72
	95			60			19			79
<u>S&PF</u>										
NA	90			128			38			166
	91			142			24			166
	92			154			24			178
	93			154			22			176
	94			149			36			185
	95			154			21			175

Forest Service Employment - by Organizational Level
(as of May 15, 1995)

WO Workforce - Washington, DC (Metro) and Detached Units (Field)

UNIT	FY	METRO	FIELD	TOTAL	METRO	FIELD	TOTAL	METRO	FIELD	TOTAL
WO-CHIEF	90	43	0	43	1	0	1	44	0	44
	91	39	0	39	2	0	2	41	0	41
	92	45	0	45	4	1	5	49	1	50
	93	46	3	49	2	1	3	48	4	52
	94	55	169	224	6	1	7	61	170	231
	95	59	615	674	5	12	17	64	627	691
WO-ADM	90	237	26	263	4	1	5	241	27	268
	91	263	31	294	9	2	11	272	33	305
	92	277	36	313	21	1	22	298	37	335
	93	292	43	335	26	1	27	318	44	362
	94	267	45	312	17	5	22	284	50	334
	95	266	882	1148	18	103	121	284	985	1269
WO-NFS	90	238	206	444	9	37	46	247	243	490
	91	254	222	476	8	42	50	262	264	526
	92	266	214	480	14	39	53	280	253	533
	93	254	212	466	11	31	42	265	243	508
	94	229	199	428	7	31	38	236	230	466
	95	225	196	421	5	31	36	230	227	457
WO-IF	91	4	0	4	.	.	.	4	0	4
	92	47	2	49	2	0	2	49	2	51
	93	48	2	50	6	0	6	54	2	56
	94	49	2	51	5	0	5	54	2	56
	95	44	1	45	6	0	6	50	1	51
	96	44	1	45	6	0	6	50	1	51
WO-P+L	90	93	0	93	8	0	8	101	0	101
	91	89	1	90	9	1	10	98	2	100
	92	96	3	99	4	0	4	100	3	103
	93	96	2	98	1	2	3	97	4	101
	94	77	2	79	2	1	3	79	3	82
	95	72	0	72	3	1	4	75	1	76
WO-RES	90	89	7	96	1	0	1	90	7	97
	91	96	5	101	3	0	3	99	5	104
	92	63	1	64	2	0	2	65	1	66
	93	68	2	70	0	1	1	68	3	71
	94	63	3	66	0	1	1	63	4	67
	95	59	3	62	0	1	1	59	4	63
WO-S+PF	90	77	59	136	2	15	17	79	74	153
	91	83	65	148	0	9	9	83	74	157
	92	91	64	155	4	1	5	95	65	160
	93	93	62	155	5	5	10	98	67	165
	94	87	58	145	4	9	13	91	67	158
	95	85	58	143	4	11	15	89	69	158

Source of data: Personnel History Information System (PHIS), U.S. Department of Agriculture.

As part of the Forest Service reinvention process, the Forest Service was to submit a restructuring proposal to Congress in March 1995. The Administration publicly announced its reorganization intentions on December 6, 1994.

182. Question. What is that status of the restructuring proposal? When can we expect it? Why is it taking so long to reach Congress?

Answer. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995. The timing of the Secretary's confirmation and his commitment to personally review the original proposals in light of numerous comments received necessitated the delay.

183. Question. What are the estimated dollar savings and staff reductions from the various proposed consolidations?

Answer. We have already accomplished a downsizing of about 4,000 FTEs since 1992. From 1992 through 1999 this will result in a cumulative payroll savings of about \$1.1 billion. This reduction in personnel and payroll costs was accomplished coincident with reductions in resource program delivery in some program areas.

Additional reductions planned for now through 1999 are:

National Headquarters	200 FTEs	\$35 million (cumulative)
Field Headquarters	600 FTEs	\$90 million (cumulative)
Field Offices	2,200 FTEs	\$125 million (cumulative)

These additional reductions in personnel and payroll costs will necessitate future reductions in program delivery, substitution of contract work for Federal workforce, or achievement of work efficiencies to compensate for reduced workforce.

184. Question. What are the estimated implementation costs, including retraining costs and personnel relation costs?

Answer. Implementation estimates for the field restructuring have not been finalized because the Regions, Stations, and Areas have not completed their plans for accomplishing the needed personnel reductions.

185. Question. An interdisciplinary team was established to develop direction and strategies for Forest Service reinvention. How many employees were on the reinvention team and what organizational units were they from. What was the source of funding for the team members? What is the estimated cost for the team? Has the team been disbanded?

Answer. The team members, their affiliation, and their jobs are

Liz Agpaoa	Pacific Northwest Region Siaklyou National Forest Galice Ranger District	District Ranger
Clair Beasley	Intermountain Region Administration	Deputy Regional Forester
Jack Blackwell	Intermountain Region Resources	Deputy Regional Forester
Linda Capriotti	Pacific Northwest Region Siuslaw National Forest Alsea Ranger District	NFFE Forest Service Council

Bill DeLaney	Washington Office Administration Personnel Management Staff Management Improvement Branch	Branch Chief
Nancy Dove-Smith	Washington Office Research Forest Insect and Disease Research Staff	Staff Secretary
Carl Holguin	Eastern Region Public and Cooperative Relations	Public Affairs Specialist
Marty Longan	Washington Office Public Affairs Office	Public Affairs Specialist
Janice McDougale	Washington Office National Forest System	Associate Deputy Chief
Hank Montrey	Washington Office National Forest System	Associate Deputy Chief
John Phipps	Pacific Southwest Region Eldorado National Forest	Forest Supervisor
Christine Pytel	Washington Office Administration	Associate Deputy Chief
Teri Raml	Southern Region George Washington National Forest	Biological Scientist
Lou Romero	Southwestern Region (Retiree)	Volunteer
Pete Roussopoulos	Southeastern and Southern Forest Experiment Stations	Station Director
Jim Space	Pacific Southwest Forest and Range Experiment Station	Station Director
Lynn Sprague	Pacific Southwest Region	Regional Forester
Ted Wegner	Forest Products Laboratory Pulp, Paper, and Composites Research	Assistant Director
Teresa Wright	Washington Office Administration	Stay-In-School Student

Salary and travel costs for the team members during the duration of the team's work were approximately \$1,600,000. Most of these costs were paid by the home units for each employee. In addition, approximately \$650,000 were expended from Washington Office GA funds. Following the release of their report, December 6, 1994, the team disbanded.

INDEPENDENT STUDY OF FOREST SERVICE ORGANIZATION

In FY 1993, \$200,000 was provided to the Forest Service to contract for an independent study of the Forest Service organization. Staff has been told that because of the agency's aggressive efforts undertaken to accomplish a more efficient and effective organization, it was decided that the independent study was not necessary. The Appropriations Committees did not receive a request from the Forest Service to be relieved from the independent study requirement.

186. Question. Why did the Forest Service choose to ignore the direction of the Appropriations Committees?

Answer. The Forest Service believes the intent of the Congressional direction was to accomplish a more efficient and effective organization. These events and actions include:

o Legislation authorizing reorganization of the Department of Agriculture has been enacted.

o The Forest Service, together with the Office of the Secretary of Agriculture, and the Office of Management and Budget completed a review of the structural organization of the Forest Service.

o The Forest Service completed a reinvention report which considered a combination of options to make the Forest Service more effective and efficient. Extensive involvement of the public was sought and received. Major efforts were made to achieve similar internal involvement. From these reinvention options, a proposal was prepared and released on December 6, 1994.

o Another recent major action was implementation of the Voluntary Separation Incentive authorized by the Federal Workforce Restructuring Act of 1994. Along with employment restrictions and aggressive priority placement, this facilitated reduction of the workforce without undue hardship for employees, which will ease transition to a new organization.

187. Question. Could this independent study have been used by the Forest Service reinvention team as an unbiased, external source?

Answer. Yes. However, the extensive public involvement used as a primary basis for Forest Service reinvention proposals provided similar independent input.

188. Question. Would a \$200,000, independent study have been less costly than forming the in-house team to look at the Forest Service reorganization?

Answer. Yes. However, this is not a true comparison. The charter of the Forest Service Reinvention Team was much broader in scope than a study of Forest Service reorganization and proposals for alternate organizational structures. The Reinvention Team provided an in-depth look at Forest Service's purpose, outcomes, culture, work and organizational structure. The Team also proposed strategies for moving from the, at the time, current status to the future Forest Service as proposed in the report "Forest Service Reinvention The Changes Begin."

189. Question. Would the agency find an independent study useful at this time? Explain.

Answer. No. The Forest Service has completed an in-depth study, including extensive public and employee involvement. The Forest Service is moving forward to implement the proposals of the report "Forest Service Reinvention The Changes Begin." The public involvement included an independently-conducted national values poll, focus groups and town hall meetings. The Forest Service received input from over 5,000 individuals and organizations throughout the year-long process.

MAINTENANCE BACKLOGS

For many years, Congress and the Administration has expressed concern over maintenance backlogs for agencies under the Subcommittee's jurisdiction. Yet the backlog numbers continue to grow.

190. Question. How large is the Forest Service maintenance backlog in fire and administrative (FA&O) facilities, recreation facilities, roads and trails?

Answer. The current estimate of backlog is \$2.2 billion:

Recreation Facilities	\$818 Million	
Trails	267	"
FA&O Facilities Maintenance	96	"
FA&O Const/Recon.	503	"
Research Facilities	141	"
Roads and Bridges	440	"
Dams, Forest Service	14	"
Total	\$2,279	"

Recreation backlog was based on a 1991 GAO report which identified a backlog of \$449 million existing in 1989. FY 1994 field inventory estimates currently show that backlog has grown to \$818 million.

Trails backlog is based on field inventories and includes heavy maintenance and trail reconstruction to restore trails to established trail standards.

FA&O facilities maintenance is an estimate based on maintenance not done and deferred until funding is available. It is based on annual field surveys of building conditions.

FA&O Construction/Reconstruction is based on a 1989 study, updated in 1994, of major renovation or replacement needs. The backlog list includes facilities that do not meet current health and safety requirements, legal requirements or are no longer cost effective. The same study updated Research facilities.

Roads and Bridges are based on studies done some time ago and updated based on maintenance inventories of roads.

Dams are inventoried and an engineering evaluation made. Current inventories as of this year include repairs needed to correct deficiencies affecting the safety of the structure, or to correct conditions that may become critical to the safety of the structure in the immediate future.

All of the above information is contained in the "1994 Forest Service Infrastructure in Support of Resources" publication.

191. Question. How large is the reconstruction backlog for fire and administrative facilities, recreation facilities, roads and trails?

Answer. The FA&O reconstruction backlog is estimated at \$503 million. Road and bridge backlogs are not separated by maintenance needs and reconstruction needs. Road and bridge maintenance/reconstruction backlog is \$440 million.

192. Question. What does this budget request do to address these backlog needs?

Answer. In the FY 1996 budget request, the FA&O facilities maintenance backlog increases by \$800,000, the FA&O construction backlog increases by \$27.7 million, and the roads and bridges maintenance and reconstruction backlog increases by \$21 million.

P.L. 103-48 - FOREST LIEU SELECTION RESOLUTION ACT

The Subcommittee has received a letter from the Forest Lieu Selection Committee, the proponents of the relief legislation that I co-sponsored and that was enacted in 1993 as P.L. 103-48, complaining of the implementation of that legislation by the Forest Service. The equitable purpose of P.L. 103-48 had strong bi-partisan support and was designated to clear title to some 22,000 acres of land currently administered by the Forest Service and about 8,000 acres administered by the BLM. The Forest Lieu Selection Committee alleges that the Forest Service is proposing to retain in federal ownership about 14,000 of the 22,000 acres that it currently administers on the basis that they are lands of "national significance," a characterization which they vigorously dispute with respect to many of those lands that (1) are wholly outside of "conservation system units" as defined in the Act, (2) are not being studied for possible addition to such units, and (3) have not been designated by Congress for "special management."

They also contend that if the Forest Service decides to retain all 14,000 acres, the costs to the United States would approximate almost \$10 million. Needless to say, in this time of serious budgetary constraints, or indeed at any time, the expenditure of a sum of that magnitude for acquisition of lands that may be of dubious value to the United States should not be lightly undertaken. The fact that P.L. 103-48 presently provides such acquisition costs to be charged against the "judgment fund" created by 31 U.S.C. 1304 and not against the Forest Service annual appropriation is not justification for land acquisition expenditures that otherwise may lack merit.

I am not able to evaluate the merits of the Forest Lieu Selection Committee's claim based on the information they have provided. Consequently, in order for me to determine whether the Forest Service implementation of the Act is consistent with its intent, I request that you provide for our hearing record:

193. Question. (1) A list identifying by State the parcels of land that Forest Service proposes to retain in federal ownership as "nationally significant" that are neither within a "conservation system unit" as defined in the Act, nor being studied for possible addition to such units, nor within a Congressionally designated "special management" area,

Answer. We question the conclusions of the Forest Lieu Selection Committee, and suggest that its findings are premature. A list identifying, by State, those parcels of land that the Forest Service proposes to retain in Federal ownership as "nationally significant" has not been prepared. We have received from each of our western Regional Offices their recommendations on whether each parcel listed in the December 30, 1993, Federal Register notice should be classified as nationally significant or quitclaim to private grantors. These recommendations are being considered now. We expect to publish our final list of nationally significant lands by the end of this year, as provided for in Public Law 103-48.

194. Question. (2) The criteria applied by the Forest Service to justify retention of each parcel to meet other "public, resource protection or administrative needs," and

Answer. The criteria used by our field offices to arrive at a recommendation as to whether parcels are nationally significant are contained in a memo from the Washington Office to the Regional Offices dated March 16, 1994. A copy of this memo is enclosed.

LETTER TO REGIONAL FORESTERS LISTING CRITERIA
FOR NATIONALLY SIGNIFICANT LANDS

Reply to: 5570

Date: MAR 16 1994

Subject: Forest Lieu Selection Tract Review;
Nationally Significant Lands

To: Regional Foresters, Regions 1-6

REPLY DUE DECEMBER 30, 1994

Our 5570 memo of September 7, 1993, advised you of the enactment of the Resolution of Western Lands Act of 1993, Public Law 103-48, and outlined the procedures set forth by that Act, by which the status of certain lands relinquished to the United States under the forest lieu selection provision of the Act of June 4, 1897--the Organic Administration Act--would be resolved. Briefly, persons who had patented public land, or who had a claim to public land, which fell within a proclaimed forest reserve boundary, were authorized to relinquish their land or claim (known as "base land") to the United States and select an equal acreage of vacant public land open to settlement (known as "in-lieu land"). The fact that some persons gave up their lands but failed to complete the selection of in-lieu land has placed a cloud on the title of the base land that has remained for nearly one hundred years. The 1993 Act is the fourth attempt by Congress to resolve the status of these lands.

A 5-step procedure is set forth in the Act that will allow the United States to finally resolve the question of title to these "lieu selection lands." A decision to either retain or to quitclaim all right, title, and interest in the base lands will be the result of the procedure. The first step requires the Forest Service to compile and publish in the Federal Register an initial list of base lands. This initial list was published on December 30, 1993, and the public has been given the opportunity to suggest additions to the initial list--the second step in the resolution procedure. Suggestions are to be received in writing by July 2, 1994.

While this initial list is being reviewed and corrected, the Forest Service must, as the third step in the process, identify nationally significant lands. These are base lands shown on the initial list which are determined to be of "national significance", and thus must be removed from the initial list and title asserted in the United States. Nationally significant lands include those within existing or study units of national "systems," such as wilderness, wild and scenic rivers, and trails. It also includes lands which the Secretary of Agriculture determines should be retained in public ownership to meet public, resource protection, or administrative needs.

This memo requests your assistance in the final identification of nationally significant lands. This is the most critical step in the forest lieu selection resolution process. This step is the basis for completing step four of the process, the final identification and publication of those lands for which title will be confirmed in the United States. Removal of nationally significant lands from the initial list results in the final list of lands subject to the statutory quitclaim and for which the Forest Service will prepare disclaimers--step five of the process. We recognize that base lands located in "system" areas will be relatively easy to locate and identify as nationally significant. It is those lands which the Secretary may determine should be retained in public ownership to meet public, resource protection, or administrative needs that will require careful consideration. This effort will be the most time consuming since it will require an on-the-ground assessment and confirmation that lands so identified are truly nationally significant. The evaluation process described in Enclosure 1 will assist in making these determinations. You should document the reason(s) each tract or parcel is determined to be nationally significant and thus removed from the initial list.

The 1993 Act imposes a specific timetable to complete each step of the resolution process. We must receive your list of nationally significant lands as soon as possible after July 2, 1994, but no later than December 30, 1994, in order to compile the final list of lands to be relinquished by the United States. You will need to keep the supporting documentation for nationally significant determinations on file for future reference. Also, please return the initial list of base lands showing those remaining tracts or parcels which are not nationally significant.

Gray F. Reynolds

JACK WARD THOMAS
Chief

ENCLOSURE 1

PROCEDURE FOR IDENTIFYING NATIONALLY SIGNIFICANT LANDS

As background in preparing this list of nationally significant lands, we can rely on legislative reports on Public Law 103-48 and a number of private acts providing relief to persons holding title to base lands. In responding to this legislation, we advised Congress of the need to not only retain valuable national forest lands but also the need to convey those lands that had been essentially held and occupied or used as private lands for a long period of time.

In addition, the congressional committee reports on Public Law 103-48 provide broad guidance on the identification of nationally significant lands. The House Committee on Natural Resources report provides that the relevant Secretary, in the exercise of sole discretion, would delete from the initial list and retain all lands needed in order to meet public, resource protection, or administrative purposes. It further provides that the discretionary authority should be exercised to the fullest extent appropriate in order to protect the public interest and minimize adverse effects on the resources and values of Federal lands or on the proper management and public use and enjoyment of those lands. The Senate Committee on Energy and Natural Resources report cautions the Secretary to exercise the discretionary authority in good faith to ensure that, outside of specified conservation units, only those lands clearly needed to protect important resource values or the public interest are declared nationally significant. The report also states that the lack of occupancy and use should not be used as the determinative factor of whether or not the tract(s) qualify as nationally significant.

We believe the following procedure to identify nationally significant lands will accomplish the intended purposes of the Western Lands Dispute Resolution Act and equitably resolve the status of the base lands.

STEP 1 - BASE LANDS WITHIN NATIONAL CONSERVATION SYSTEM UNITS:

Remove from the initial list all base lands that are within or partially within conservation system units designated by law, or under study for addition to a conservation system unit. Conservation system units include those within the:

1. National Park System;
2. National Wildlife Refuge System;
3. National Wilderness Preservation System;
4. National Wild and Scenic Rivers System;
5. National Trails System; and

6. lands being studied for possible designation as a unit of any such system.

STEP 2 - BASE LANDS WITHIN SPECIAL MANAGEMENT AREAS:

Remove from the initial list all base lands that are within or partially within special management areas designated by law. Special management areas include:

1. National recreation areas;
2. National forest monuments;
3. National conservation areas; and
4. Lands being studied for possible designation as any such area.

STEP 3 - BASE LANDS NEEDED FOR PUBLIC, RESOURCE PROTECTION, OR ADMINISTRATIVE PURPOSES:

Remove from the initial list base lands needed to protect the public interest, to minimize adverse effects on resources, and to provide for the proper management of the Federal lands. Consider the guidance in Step 4 before initiating any activity under this step.

This step is applicable to the remaining base lands on the initial list. Use existing Land and Resource Management Plans, land adjustment plans and other regional or forest guides to provide broad guidance whether or not the base lands are nationally significant. Keep in mind that existing policy direction also provides guidance for lands that should remain on the initial list, those that have been in private possession for a long period of time. However in situations in which anticipated private uses of those lands would adversely affect National Forest System lands and resources and when the retention of those lands would benefit management and protection of the lands and resources, the national significance test should be used to the fullest extent appropriate to protect the public interest and protect the resources and values of Federal lands.

Use the following guides, as appropriate, to determine whether base lands should be removed from the initial list under this step:

1. Base lands having special management or protection designation, including those within:
 - a. Areas withdrawn from entry under the mining laws or the public land laws, or otherwise set aside by or under Executive Orders to protect public or Federal interest;
 - b. Areas appropriated for Federal purposes and areas administratively designated for specific public purpose or protection by Secretarial Order, such as research natural areas, scenic areas, geologic areas and so forth;
 - c. Areas set aside or designated for special resource management treatment under National Forest Land and Resource Management plans and other program plans;
2. Base lands having public interest considerations.
 - a. Those providing an opportunity to achieve better management of Federal lands and resources;
 - b. Those needed to meet the needs of State and local residents and local economies; and
 - c. Those having attributes that provide important public objectives and values, including, but not limited to, those that:
 1. Protect important scenic, fish and wildlife, environmental, historical, archeological, cultural, and recreation resources and values;

2. Contain threatened or endangered plant or animal species, wetlands, archeologic or historical sites;
3. Promote important multiple use values;
4. Implement National Forest Land and Resource Management plans;
5. Promote management and administration efficiency;
6. Prevent restricting access to and use and enjoyment of National Forest System lands by the general public; and
7. Prevent the establishment of new or extensive nonfederal inholdings which would create management and access problems.

STEP 4 - BASE LANDS THAT ARE APPARENTLY IN PRIVATE OWNERSHIP:

Retain on the initial list base lands known to have lost their national significance through non-Federal possession. The objective of this step is to find any tract or part of a tract outside of the areas identified under steps 1, 2, or 3 that has lost its national significance. This would include parcels that have been recognized by the Forest Service as being in non-Federal possession, and have been developed or have continuously been held, occupied, or used as private lands.

Persons have been in possession and occupying tracts of National Forest System lands for many years but were unaware of the uncertain title. Many of these parties have occupied these tracts in good faith and made significant improvements under some form or color of title believing that they owned the property.

Use the following guides to determine if lands have lost their national significance through private possession:

1. The tract was not abandoned by the grantor-selector, and no in-lieu lands or payments have been selected or received by the grantor-selector for the base lands;
2. The tract has not been disposed of by the government to others;
3. Title to the subject tract has been claimed, occupied, and used in good faith by successive owners pursuant to State title laws;
4. The tract has been carried on local tax rolls and taxes are currently paid, and succession of title is clear;
5. The United States has treated the tract as private lands; and
6. There is no apparent national significance attributed to the tract or part of the tract.

Hold such non-nationally significant parcels on the initial list. These parcels will be compiled into an interim final list by the Washington Office.

195. Question. (3) Your estimated value of such lands.

Answer. Since we have not completed identification of the nationally significant lands, an estimate of value would be premature.

FOREST HEALTH

Significant concern has been raised about the health of the nation's forests. A combination of disease, drought, and outmoded management practices has resulted in a catastrophic buildup of dead and dying trees. This accumulation is particularly acute in the western forests. In the Forest Service's October 1994 report on Western Forest Health Initiatives, 330 initiatives were identified

as top priorities and are scheduled for implementation within the next 24 months.

196. Question. What does the Forest Service estimate to be the costs of the 330 initiatives? How are you planning to fund these projects?

Answer. The cost of the projects is almost \$230 million. The projects are all funded, as that was one of the criteria for project nomination. Approximately 90 percent of these projects are funded with FY 1995 funds. The remaining would be funded in FY 1996.

197. Question. Has the Forest Service determined what it would cost to achieve healthy forests nationwide? If so, what is your estimate?

Answer. The Congressional Research Service (CRS) report estimates an average cost of \$250 per acre for a variety of treatments. Although costs vary greatly by type of treatment and by site-specific characteristics, we accept the CRS figure as a reasonable estimate.

198. Question. According to a recent Congressional Research Service report, treating 14 million acres in the West, or roughly 10 percent of the affected area, would cost \$3.5 billion. Does the Forest Service agree with this estimate?

Answer. The CRS report estimates an average cost of \$250 per acre for a variety of treatments. Although costs vary greatly by type of treatment and by site-specific characteristics, we accept the CRS figure as a reasonable estimate.

199. Question. How long does the Forest Service estimate that it will take to make significant progress in achieving forest health?

Answer. Many adverse forest health conditions took decades to evolve; it will likely take decades to correct them. However, there are some site-specific situations that can be addressed immediately to either restore healthy conditions or prevent further damage.

SOIL WATER AND AIR MANAGEMENT

The Forest Service is conducting watershed analyses to gain an understanding of the current condition and physical capability of watersheds. You indicate this analysis is needed to determine desired conditions and to define appropriate resource output levels. This type of analysis was utilized in the President's Forest Plan area and is currently being conducted in conjunction with the Columbia River Basin Ecoregion Assessment in the Northwest.

200. Question. Considering all the dollars that have been expended on resource inventories, monitoring studies, evaluations, and forest plan development over the past twenty years, it is difficult to understand why yet another "analysis" is needed on Forest Service lands. What will this analysis provide which previous studies, evaluations, and Forest Plans will not provide?

Answer. Watershed analysis fills a unique and critical need in resource management by (1) identifying those dominant landscape features and processes that have the most bearing on proposed management activities, (2) evaluating their conditions, and (3) identifying both inappropriate and appropriate kinds of management activities (including restoration needs) for the watershed.

201. Question. What is the difference between a watershed analysis and an ecosystem assessment?

Answer. Watershed analysis, as used by the Forest Service, is the same as an ecosystem assessment on a watershed basis. This requires an assessment of all components of ecosystems, but the assessment is confined to a specific watershed. In contrast, an ecosystem assessment can include consideration of one or more ecosystems, and is not restricted to a defined watershed boundary.

202. Question. What portion of the Soil, Water and Air Management activity management funding is directed to watershed analysis efforts?

Answer. For 1995, watershed analysis was funded multi-financed as part of the National Forest's Ecosystem Management budget line item. Soil-water-air program dollars represent approximately 27 percent of the total.

203. Question. To what extent do other programs and activities contribute funding for watershed analysis?

Answer. The following table shows the contribution of other program dollars to the total expanded budget line item (EBLI) National Forests Ecosystem Management (NFEM) fund code.

Program Funds Contributing to Watershed Analysis FY 1995

Program	Approximate Contribution (mm\$)		
	Region 5	Region 6	Total
Recreation	0	.8	.8
Fish & Wildlife	1.4	3.3	4.7
Range Management	0.1	5.9	6.0
Timber Management	0	4.3	4.3
Minerals Management	0	.2	.2
Soil, Water, & Air	2.5	5.5	8.0
Total	4.0	20.0	24.0

(64.1% of these monies were in the National Forest System - Ecosystem Planning, Inventory, and Monitoring (NFEM) fund code. 35.9% were earmarked within the individual expanded budget line items for Soil, Water, Air, Fisheries and Wildlife, and Range.)

204. Question. How much Forest Service land is currently covered by an adequate watershed analysis?

Answer. Approximately 5 million acres of National Forest System lands have been covered by watershed analyses to date.

205. Question. Would you outline your strategy for completing watershed analysis procedures on lands not currently covered?

Answer. Our strategy for completing watershed analysis is as follows:

Fund and conduct the analyses that are required to:

1. Achieve potential timber sale quantity as identified in the record of decision for the President's Plan;
2. Identify watershed restoration needs;
3. Achieve other program targets and outputs, such as relicensing Federal Energy projects on NF System lands.

You indicate a portion of the Soil and Water Resource Improvements funds will be directed to project work in support of the Columbia River Basin Plans.

206. Question. What project development needs are anticipated in this area?

Answer. Most watershed improvements in the Columbia River Basin (CRB) are aimed at attaining two general goals: (1) reducing soil erosion in upland watersheds and the sediment that results from this erosion, and (2) restoration of riparian areas within the CRB. Both efforts have significant effects on improvements of water quality. Additional benefits include increased soil productivity and increased habitat for fish and wildlife, to name a few. Due to the intense focus on the CRB, Forests have directed a large portion of their improvement efforts to watersheds where production of goods and services are curtailed or diminished due to poor watershed condition, and to watersheds with threatened and endangered species concerns. Compliance with the Clean Water Act and Endangered Species Act are critical in these basins.

207. Question. What effect will the \$1,559,000 reduction in funding for this program have on completing "on-the-ground" resource improvement projects for this effort?

Answer. The \$1,599,000 reduction is for the entire program for all Forest Service regions. Current allocations in the President's budget show \$3,796,000 (16%) for Region 1, \$1,186,000 (5%) for Region 4, and \$4,220,000 (18%) of the improvements funding for regions which encompass the Columbia River Basin (CRB). The remaining (61%) of the funding goes to other regions within the Forest Service. This reflects approximately a 6.1% decrease from the 1996 base budget. This decrease in funding will slow progress toward meeting our goals of improving watershed condition and water quality.

Since recent budget allocations will delay accomplishing these needed improvements over several decades, further delays will only exacerbate this situation, slowing the return of productive capacity for these watersheds and the benefits they bring for local and national residents. It will also slow our compliance with both the Endangered Species Act and the Clean Water Act.

LAND ACQUISITION

Many have suggested that there should be a moratorium on purchasing additional Federal lands as a means to reduce Federal spending. Others have suggested that the Federal government should divest itself of most of the land that it currently owns.

208. Question. What would be the impact on the operations of the Forest Service if no funding is provided in FY 1996 for land acquisition?

Answer. The President's Budget request for land acquisition represents the Forest Service's highest priority land acquisition needs. These priorities are based on factors such as the threat of development, outdoor recreation opportunities, wildlife habitat, and improved management of existing National Forests. The proposed acquisitions are located around the country and generally receive strong support from the public, conservation organizations, and local governments.

Obviously, elimination of funding for this important program will stop all proposed acquisitions. Landowners who want to sell their property to the Forest Service will look for other buyers. It is likely that the lands that are sold and subdivided would not be available for Forest Service acquisition again.

Several of our current acquisitions are being acquired in phases over a number of years. Projects like the Greater Yellowstone Area, a project focused on protecting the Yellowstone ecosystem and critical elk winter range, would not be completed and the remaining lands would likely be developed. There are several large acquisition projects that are only partially completed.

Any remaining carryover funds from FY 1995 would be utilized to purchase either the properties identified in FY 1995 Appropriations Act, or, if tracts are unavailable, reprogrammed for emergency acquisitions. Acquisition management funding for FY 1996 is critical to allow completion of acquisitions started in FY 1995 and finish documentation of purchases completed in prior years.

209. Question. What would be the cost associated with the Forest Service turning over property to the States or other organizations? How would those costs compare with the current operating costs of those properties?

Answer. It would be extremely difficult to estimate the cost associated with the Forest Service turning over property to the States or other organizations. In addition to the costs for transferring the 191 million acres of the National Forest System, there would be significant costs associated with the transfer of improvements and physical property. Impacts to the current Forest Service workforce would be significant, as would indirect impacts to local communities where the Forest Service is a major employer. While some of these costs would be of a one-time nature, on-going costs of a similar magnitude would be incurred to manage the resources at a local level. The nature and extent of that management, the conservation responsibilities associated with any such transfers, and the public expectations would greatly influence state and local costs.

210. Question. Do the States or these other organizations have the resources to maintain public uses that are currently available on Forest Service properties?

Answer. The states, like the Federal government, are facing difficult financial choices. Capability varies greatly by state. The cost of managing these lands would also be greatly affected by the management objectives and public expectations for the intended use of these public lands.

While there may be some funding for land acquisition, it is likely to be at a level significantly lower than recent years, with reductions of 10 to 20 percent or greater likely to occur.

211. Question. What approach would you recommend to the Committee to accommodate such reductions?

Answer. The President's Budget lists our proposed acquisitions in order of priority, and should be taken into account when considering reductions. In addition, the President's Budget emphasizes emergency acquisitions and wilderness inholdings. Both of these projects provide for the acquisition of key properties across the United States that are often small properties threatened by development.

The FY 1996 request for land acquisition for the Forest Service is \$65,311,000, which will be used to acquire an estimated 45,014 acres.

212. Question. What policy objectives are reflected in your FY 1996 land acquisition request? For example, what portion of your FY 1996 request for land acquisition seeks to fulfill habitat conservation, threatened and endangered species preservation, open space or resource protection objectives?

Answer. The land acquisition program is focused on building and protecting the National Forest System for future generations. Many areas within or immediately adjacent to existing National Forests contain important resources that, if acquired, will help the Forest Service meet its mission of caring for the land and serving the people. Typically, lands identified for acquisition have several attributes that make them desirable for public ownership. These attributes include public outdoor recreation opportunities, critical wildlife habitat, significant culture resources, and properties lying within a Wilderness or other Congressionally designated areas. In addition to the resources found on the land, many acquisitions improve the management efficiency and save administrative costs associated with property management.

Primary attributes of the lands proposed for acquisition in FY 1996 can be broken into the following categories:

- 14% - Landownership Consolidation (Administrative Savings)
- 3% - Cultural/Historic Resources
- 25% - Ecosystem Protection
- 3% - Outdoor Education
- 30% - Recreation
- 5% - Wetlands
- 20% - Wildlife Habitat

213. Question. Please describe the criteria used by the Forest Service to determine land acquisition priorities.

Answer. The Land Acquisition Priority System (LAPS) is used to evaluate and rank land acquisition proposals. It accounts for threat of development, recreation opportunity, preservation of threatened or endangered species habitat, preservation of cultural resources, benefits to wetlands, infrastructure necessary to meet intended management objectives, recreation use growth rate, management efficiency, reduced acquisition costs, and involvement of non-federal partners. LAPS also allows for limited number of priority points to be assigned to projects based on local program direction and emphasis areas.

214. Question. To what extent is the Forest Service proposing to use land exchanges to accomplish these policy objectives? What is the cost associated with those exchanges?

Answer. The land acquisition program, funded under the Land and Water Conservation Fund Act, is a separate program from the land exchange program. Many exchanges meet the same objectives as the Land act and would qualify for land acquisition funds. There are higher costs associated with land exchanges because of additional requirements associated with removing lands from Federal ownership. We are currently processing a number of large exchanges that will improve Forest Service landownership patterns and protect critical resources. The current proposal for land exchange activities in FY 1996 is approximately \$11.6 million.

215. Question. Please provide for the record a table listing the land acquisition projects proposed for FY 1996. For each project, please identify the appropriations and number of acres acquired to date, the total number of acres remaining to be acquired, the total cost to acquire those remaining acres, and any additional outyear costs (i.e. O&M, development) associated with each proposed acquisition.

Answer. The following table displays the Forest Service L&WCF land acquisition priorities for FY 1996.

FOREST SERVICE L&WC
ACQUISITION PRIORITIES FY 1998

PROJECT	DOLLARS SPENT	ACRES ACQUIRED	COST/AC	PROG. PERCENT	PROG. REQUESTED	FIRM ACRES	COST/AC	PROJECTED FIRM	PROJECTED ACRES	COST/AC	PROJECTED FIRM	PROJECTED ACRES	REF.
1 GREAT YELLOWSTONE AREA	6,887,000	3,841	1,793	2,208	\$3,000,000	1,770	2,203	2,100,000	1,800	1,048	1,800	1,800	16
2 CHATTOOGA W/ASR ECOSYSTEM	13,570,000	8,200	2,810	32,000	\$32,000,000	8,200	3,233	15,000,000	8,500	3,333	15,000,000	8,500	1
3 BIG SUR ECOSYSTEM	6,120,000	2,460	5,301	12,000	\$2,000,000	3,864	5,495	10,000,000	3,300	3,030	10,000,000	3,300	1
4 RUTHERFORD RANCH	0	0	0	0	\$2,000,000	3,864	2,500	8,000,000	2,400	2,500	8,000,000	2,400	1
5 SAN BERNARDINO	32,557,340	20,150	1,650	3,618	\$2,000,000	2,549	1,650	10,000,000	4,000	2,500	10,000,000	4,000	1
6 GEORGE NGA	3,587,000	1,053	3,354	1,354	\$2,000,000	1,053	3,354	2,000,000	1,053	3,354	2,000,000	1,053	1
7 FLORIDA WETLANDS	5,387,000	4,053	1,332	3,332	\$2,381,000	2,292	1,851	2,800,000	1,518	1,851	2,800,000	1,518	1
8 ALPINE LAKES	35,334,500	41,824	810	1,000	\$2,000,000	640	3,125	10,000,000	3,125	3,200	10,000,000	3,125	1
9 WHITE MT SCENIC AREA	500,000	500	1,000	1,000	\$2,000,000	1,200	833	5,000,000	4,000	1,250	1,250	1,250	1
10 PINN STREAMS (RIPERIES)	4,000,000	1,950	2,051	\$3,000,000	1,200	2,143	10,000,000	4,000	2,500	1,250	1,250	1,250	1
11 LAKE TOWER BASIN	93,802,500	10,811	8,768	\$3,000,000	1,200	20,000	10,000,000	1,800	8,250	8,250	8,250	8,250	1
12 MICHIGAN LAKES & STREAMS	1,600,000	4,000	400	\$3,750,000	1,600	1,000	5,000,000	1,000	1,000	1,000	1,000	1,000	1
13 TROPICAL FOREST	1,184,000	248	4,710	\$5,000,000	1,800	3,125	2,500,000	555	4,505	1,500	1,500	1,500	1
14 TROPICAL FOREST	3,068,544	11,464	348	\$1,000,000	1,000	500	2,500,000	500	500	500	500	500	1
15 MO OZARK MT STREAMS	1,561,000	3,840	407	\$1,000,000	2,000	500	5,000,000	10,000	500	1,500	1,500	1,500	1
16 MO OZARK MT STREAMS	1,834,000	2,091	1,881	\$1,000,000	1,400	2,500	5,000,000	1,500	3,333	1,500	1,500	1,500	1
17 TWIN PLANTATION	31,000,000	4,000	7,750	\$1,000,000	2,000	1,500	4,771,000	1,500	1,500	1,500	1,500	1,500	1
18 NORTH FORK AMERICAN	3,170,000	4,448	542	\$750,000	900	833	8,000,000	10,000	400	1,400	1,400	1,400	2
20 UNQUE AREAS & LOST RIVER	2,000,000	2,300	870	\$1,000,000	2,000	5,000	5,000,000	2,000	2,500	1,182	1,182	1,182	1
21 INTERLON RIG & SENECA LK	1,500,000	1,500	1,074	\$2,000,000	2,090	400	2,800,000	2,200	0	0	0	0	1
22 ALLEGHENY PN	2,644,000	3,935	673	\$1,000,000	1,900	1,000	5,000,000	5,000	1,000	1,000	1,000	1,000	1
23 SANGRENT CARSON	650,000	85	10,000	\$1,350,000	135	1,000	250,000	25	10,000	0	0	0	1
24 MT ROGERS W/ASR	2,500,000	1,920	1,302	\$700,000	460	2,188	0	0	0	0	0	0	1
25 THREE JUNIOR SPRING	500,000	1,500	333	\$400,000	1,500	333	3,000,000	7,500	400	1	1	1	1
26 ROSA SCHNITZ NATIONAL FOREST	18,700,170	42,269	389	\$3,750,000	1,850	4,000	4,000,000	8,000	500	1	1	1	1
27 WAYNE NATIONAL FOREST	3,082,000	2,851	1,081	\$1,000,000	1,295	702	5,000,000	5,000	1,000	1,000	1,000	1,000	1
32 COCHIE OZMALEGE RIVER	3,082,000	2,851	1,081	\$1,000,000	1,295	702	5,000,000	5,000	1,000	1,000	1,000	1,000	1
33 ORECON DUNES NACASCADE	31,054,000	8,852	4,052	\$500,000	875	741	2,500,000	1,000	2,500	833	833	833	1
34 TENNESSEE MOUNTAINS	300,000	0	0	\$500,000	48	12,222	5,000,000	3,000	2,000	2,000	2,000	2,000	1
35 WEDGE TRACT	300,000	21	17,345	\$500,000	48	12,222	5,000,000	3,000	2,000	2,000	2,000	2,000	1
36 WEDGE TRACT	300,000	21	17,345	\$500,000	48	12,222	5,000,000	3,000	2,000	2,000	2,000	2,000	1
37 WARRIOR LAKES	3,392,000	2,781	1,219	\$1,000,000	158	10,127	5,000,000	2,812	2,000	2,000	2,000	2,000	1
38 SHAWNEE	5,880,000	6,500	908	\$500,000	750	697	2,500,000	3,000	633	1,4	1,4	1,4	1
39 PLATHED PN	12,750,000	8,860	1,390	\$500,000	675	741	2,500,000	3,300	768	1	1	1	1
40 BONNEVILLE SHORELINE TRAIL	165,000	38	4,342	\$400,000	500	1,800	4,000,000	2,350	1,778	1	1	1	1
41 DANIEL BONEBERG RD PU	10,480,000	21,725	478	\$2,000,000	2,850	702	10,000,000	14,288	700	1	1	1	1
42 CENTRAL GULF BAY	2,048,000	2,098	976	\$500,000	800	625	2,500,000	3,125	800	1	1	1	1
43 CENTRAL GULF BAY	2,048,000	2,098	976	\$500,000	800	625	2,500,000	3,125	800	1	1	1	1
44 GREEN MOUNTAIN	21,795,000	49,258	442	\$400,000	950	528	5,000,000	10,000	500	1	1	1	1
45 W/ASR HENTAGE	0	0	0	\$400,000	950	528	5,000,000	10,000	500	1	1	1	1
TOTAL	382,978,068	348,988	1,107	\$60,811,000	40,304	1,287	188,633,000	188,633,000	188,633,000	1,287	188,633,000	188,633,000	1,287
Propositions based on historic and current funding levels													
Working on a land exchange to complete acquisition of available lands													
Proposals for completion on New River Tract. Many Florida Wetlands projects remain to be acquired													
Dollars spent prior years represent recent acquisition history													
New acquisition program on Forest													
Allow completion of the Percent-Range													
Source include estimates based on obligated and committed funds													

figures include estimates based on obligated and committed funds

216. Question. Which of your proposed FY 1996 land acquisitions will require fee acquisitions and which ones will involve either conservation or scenic easements, reserved interest deeds, or other less-than-fee approaches?

Answer. Only a portion of the acquisitions in priority number 6, the Columbia River Gorge National Scenic Area (\$2 million) and priority number 39, Flathead National Forest (\$500,000) will involve less-than-fee approaches. All other projects are fee acquisitions.

Both the House and the Senate passed versions of the rescission bill included rescissions of funding provided previously for land acquisition projects.

217. Question. To what extent has passage of the rescission bill affected the availability of property proposed for acquisition? Has there been any greater willingness on the part of property owners to reach an agreement with the Forest Service?

Answer. The rescission/supplemental bill (HR-1158) did not affect the availability of property proposed for acquisition. Most of the properties already had purchase options signed by the landowners, though the bill may have affected the decision of landowners who had not signed purchase options.

218. Question. Do you anticipate any impact on the time it takes to obligate funds in FY 1996 as a result of the experience gained from the rescission bill?

Answer. The landowners of many of the properties identified in the FY 1996 program have signed purchase options to sell their land to the Forest Service. Because of this, we expect most of the funds will be obligated in the first half of the year.

The Senate-passed version of the rescission bill included a provision which would prevent purchase of lands for the Wayne National Forest, which are located in Washington County and Lawrence County, Ohio. The FY 1996 budget request includes \$750,000 to purchase 1,850 acres located in Washington County, Ohio.

219. Question. Have the problems, which caused the language to be included in the Senate version of the rescission bill, been resolved? If not, how does this affect the FY 1996 proposal to acquire additional land in Washington County?

Answer. We are working with members of the Ohio delegation and local officials to resolve their concerns. Until these problems are resolved, we will focus our acquisition program in other counties.

In FY 1995, \$1 million was appropriated to purchase property for the Olympic National Forest in Washington State. The FY 1996 budget request includes no funding to complete this acquisition.

220. Question. What is the status of the acquisition of the tract for which funding was provided in FY 1995?

Answer. The Trust for Public Land (TPL) has agreed to be a third party in the facilitation of the purchase and have negotiated

an option for the tract. The appraisal has been completed and two title conditions (access and minerals) need to be resolved. The Forest Service is prepared to take an option from TPL conditioned on the availability of funds and the issues of access and minerals are resolved.

221. Question. How much additional funding will be required to complete the acquisition?

Answer. The tract has been appraised at \$3,808,000. An additional \$2,808,000 will be necessary to complete the acquisition. The President's Budget does not include a request for these funds.

In FY 1996, the Forest Service is requesting \$2,000,000 to acquire approximately 700 acres within the Columbia River Gorge National Scenic Area in Oregon. In FY 1995, \$1.4 million was appropriated for acquisitions for the Columbia River Gorge in Oregon and Washington.

222. Question. Please provide for the record a description of the land that has been acquired to date within the Columbia River Gorge NSA since the enactment of the Columbia River Gorge National Scenic Area Act, including the location, type of acquisition (i.e. fee acquisition, exchange, conservation easement, etc.), date of acquisition, acreage, acquisition cost or appraised value if acquired through exchange, and the timber or extractive resources on any of the parcels.

Answer. The attached list provides information on the lands that have been acquired within the Columbia River Gorge National Scenic Area. We do not have an itemized listing of extractive resources found on these parcels.

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA ACQUISITIONS

LIST BY LEGAL, ACRES, \$, TYPE, FT DATE

LOCATION	SEC	COUNTY	ACRES	TYPE	\$ AMOUNT	FINAL_TITLE	COMMENTS
T01N R03E	13	MULTNOMAH	1380.21	FEE	2760000	91/11/19	
T01N R04E	13	CLARK	61.50	PARTIAL	113000	92/02/24	CONSER. ESMENT
T01N R04E	13	CLARK	5.05	PARTIAL	36000	92/06/04	CONSER. ESMENT
T01N R04E	13	CLARK	59.52	PARTIAL	33200	092/06/05	
T01N R04E	24	CLARK	21.10	FEE	21000	092/02/24	
T01N R04E	24	CLARK	43.90	PARTIAL	30800	092/07/09	CONSER. ESMENT
T01N R04E	25	MULTNOMAH	2.20	FEE	34000	92/02/24	
T01N R04E	25	MULTNOMAH	2.50	FEE	35000	92/02/12	
T01N R04E	25	MULTNOMAH	4.14	FEE	37000	90/06/18	
T01N R04E	27	MULTNOMAH	81.45	FEE	27800	092/02/27	
T01N R04E	27	MULTNOMAH	11.22	FEE	76000	91/11/19	
T01N R04E	28	MULTNOMAH	7.50	FEE	50000	91/07/19	
T01N R04E	28	MULTNOMAH	21.19	FEE	12200	092/01/09	
T01N R04E	29	MULTNOMAH	5.04	FEE	33500	91/11/24	
T01N R04E	29	MULTNOMAH	5.01	FEE	42500	92/02/24	
T01N R04E	29	MULTNOMAH	120.62	FEE	265000	92/04/03	
T01N R05E	1	SKAMANIA	59.78	FEE	245000	91/04/10	
T01N R05E	1	SKAMANIA	280.00	FEE	435000	91/12/11	
T01N R05E	2	SKAMANIA	40.00	FEE	132000	92/03/25	
T01N R05E	2	SKAMANIA	235.00	FEE	520000	91/10/31	
T01N R05E	2	SKAMANIA	100.00	PARTIAL	102300	92/10/29	CONSER. ESMENT
T01N R05E	3	SKAMANIA	38.88	FEE	165000	90/06/05	
T01N R05E	3	SKAMANIA	171.93	FEE	361200	92/10/21	
T01N R05E	7	SKAMANIA	150.10	FEE	195000	92/03/24	
T01N R05E	8	SKAMANIA	28.28	FEE	125000	91/11/19	
T01N R05E	8	SKAMANIA	166.25	PARTIAL	201000	92/06/05	CONSER. ESMENT
T01N R05E	8	SKAMANIA	42.74	PARTIAL	52700	91/12/02	CONSER. ESMENT
T01N R05E	8	SKAMANIA	7.51	FEE	78000	90/06/26	
T01N R05E	8	SKAMANIA	2.00	FEE	16000	90/08/07	
T01N R05E	8	SKAMANIA	162.75	PARTIAL	469000	92/05/15	CONSER. ESMENT
T01N R05E	8	SKAMANIA	9.98	FEE	38000	92/02/26	
T01N R05E	8	SKAMANIA	20.05	PARTIAL	61015	92/08/11	CONSER. ESMENT
T01N R05E	9	SKAMANIA	45.01	FEE	330000	89/03/06	
T01N R05E	9	SKAMANIA	6.00	FEE	26500	90/06/21	
T01N R05E	9	SKAMANIA	5.00	FEE	54000	89/10/20	
T01N R05E	9	SKAMANIA	5.04	FEE	28000	90/06/05	
T01N R05E	9	SKAMANIA	5.24	FEE	28000	90/10/29	
T01N R05E	9	SKAMANIA	5.67	FEE	35300	92/07/29	
T01N R05E	9	SKAMANIA	10.10	FEE	43000	90/10/29	
T01N R05E	9	SKAMANIA	4.20	FEE	50000	92/03/02	
T01N R05E	9	SKAMANIA	12.20	FEE	50000	93/04/16	
T01N R05E	10	SKAMANIA	393.65	EXCHANGE	287000	90/01/23	1919 MBF
T01N R05E	10	SKAMANIA	66.50	PARTIAL	168000	92/07/09	CONSER. ESMENT
T01N R05E	10	SKAMANIA	71.00	FEE	213000	91/11/25	
T01N R05E	10	SKAMANIA	17.00	FEE	86000	92/03/04	
T01N R05E	12	SKAMANIA	100.95	TRANSFER	0		
T01N R05E	13	MULTNOMAH	1765.50	EXCHANGE	4470000	93/11/29	19670 MBF
T01N R05E	14	MULTNOMAH	11.38	FEE	36000	92/02/05	
T01N R05E	16	SKAMANIA	10.12	FEE	40500	90/06/26	
T01N R05E	16	SKAMANIA	11.08	FEE	55400	88/08/08	
T01N R05E	16	SKAMANIA	10.22	FEE	55000	90/10/16	
T01N R05E	16	SKAMANIA	10.11	FEE	45500	88/08/08	
T01N R05E	16	SKAMANIA	75.98	FEE	400000	95/03/24	
T01N R05E	16	SKAMANIA	10.00	FEE	43000	92/03/02	
T01N R05E	16	SKAMANIA	30.55	FEE	95500	90/06/12	
T01N R05E	16	SKAMANIA	10.75	FEE	41000	89/10/20	
T01N R05E	16	SKAMANIA	10.97	FEE	52000	92/03/18	
T01N R05E	17	SKAMANIA	74.20	PARTIAL	240000	94/05/26	CONSER. ESMENT
T01N R05E	17	SKAMANIA	10.00	FEE	45000	92/01/07	
T01N R05E	17	SKAMANIA	82.00	PARTIAL	158500	92/05/19	CONSER. ESMENT
T01N R05E	17	SKAMANIA	109.85	PARTIAL	203500	92/05/29	CONSER. ESMENT
T01N R05E	17	SKAMANIA	10.20	PARTIAL	29600	92/02/12	CONSER. ESMENT
T01N R05E	17	SKAMANIA	17.12	FEE	60000	89/10/20	

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA ACQUISITIONS

LIST BY LEGAL, ACRES, \$, TYPE, FT DATE

LOCATION	SEC	COUNTY	ACRES	TYPE	\$ AMOUNT	FINAL TITLE	COMMENTS
T01N R05E	17	SKAMANIA	8.91	PARTIAL	27000	92/05/15	CONSER. ESMENT
T01N R05E	17	SKAMANIA	29.81	PARTIAL	68500	92/07/09	CONSER. ESMENT
T01N R05E	18	SKAMANIA	62.95	PARTIAL	200800	92/06/04	CONSER. ESMENT
T01N R05E	18	SKAMANIA	232.20	PARTIAL	958000	92/02/24	CONSER. ESMENT
T01N R05E	18	SKAMANIA	40.50	PARTIAL	59800	92/07/09	CONSER. ESMENT
T01N R05E	19	SKAMANIA	23.87	FEE	30000	90/07/12	
T01N R05E	19	SKAMANIA	50.00	FEE	75000	91/07/19	
T01N R05E	19	SKAMANIA	31.71	PARTIAL	73000	92/07/09	CONSER. ESMENT
T01N R05E	22	MULTNOMAH	487.23	EXCHANGE	1319000	91/12/09	6514 MBF
T01N R05E	22	MULTNOMAH	11.00	FEE	44000	91/09/06	
T01N R05E	22	MULTNOMAH	46.00	FEE	220000	92/05/01	596 MBF
T01N R05E	23	MULTNOMAH	100.00	FEE	97700	90/11/21	
T01N R05E	26	MULTNOMAH	10.00	FEE	10000	92/06/02	
T01N R05E	27	MULTNOMAH	5.12	FEE	28000	90/06/26	
T01N R05E	27	MULTNOMAH	3.56	FEE	15000	90/06/26	
T01N R05E	27	MULTNOMAH	1.00	FEE	18000	92/02/12	
T01N R05E	27	MULTNOMAH	5.00	FEE	27500	92/02/05	
T01N R05E	27	MULTNOMAH	10.16	FEE	25000	92/02/05	
T01N R05E	27	MULTNOMAH	1.01	FEE	18000	92/02/12	
T01N R05E	28	MULTNOMAH	111.34	EXCHANGE	125000	89/08/04	470 MBF
T01N R05E	30	MULTNOMAH	1.35	FEE	33000	91/04/10	
T01N R05E	31	MULTNOMAH	2.72	FEE	32500	91/10/07	
T01N R05E	32	MULTNOMAH	5.00	FEE	23100	92/01/08	
T01N R05E	33	MULTNOMAH	7.99	FEE	31100	92/02/05	
T01N R05E	33	MULTNOMAH	7.92	FEE	35500	92/03/30	
T01N R05E	33	MULTNOMAH	46.33	FEE	76500	92/03/04	
T01N R05E	33	MULTNOMAH	3.23	FEE	21000	92/01/28	
T01N R05E	33	MULTNOMAH	14.95	FEE	83500	92/03/04	
T01N R06E	3	SKAMANIA	8.54	FEE	34000	91/07/19	
T01N R06E	3	MULTNOMAH	79.38	FEE	160000	90/06/21	
T01N R06E	5	SKAMANIA	110.40	FEE	335000	91/08/28	
T01N R06E	6	SKAMANIA	5.00	FEE	35000	92/04/06	
T01N R06E	6	SKAMANIA	8.40	FEE	56000	89/03/06	
T01N R06E	6	SKAMANIA	20.84	FEE	178000	88/07/02	
T01N R06E	6	SKAMANIA	18.00	FEE	48600	90/06/05	
T01N R06E	6	SKAMANIA	8.00	FEE	23200	92/02/24	
T01N R06E	6	SKAMANIA	7.69	FEE	23000	90/06/26	
T01N R06E	6	SKAMANIA	2.50	FEE	10000	90/06/26	
T01N R06E	6	SKAMANIA	26.83	FEE	50300	91/02/04	
T01N R06E	6	SKAMANIA	10.00	FEE	28650	92/03/04	
T01N R06E	6	SKAMANIA	107.00	FEE	535000	93/01/25	
T01N R06E	12	MULTNOMAH	160.00	EXCHANGE	628500	94/01/19	2470 MBF
T01N R06E	14	MULTNOMAH	5.00	FEE	8700	89/07/27	
T01N R06E	14	MULTNOMAH	40.00	FEE	122000	92/01/06	
T02N R05E	36	SKAMANIA	19.71	FEE	43500	91/02/04	
T02N R05E	36	SKAMANIA	7.62	FEE	23000	90/08/17	
T02N R05E	36	SKAMANIA	8.55	FEE	24000	90/06/26	
T02N R05E	36	SKAMANIA	4.76	FEE	19000	91/07/19	
T02N R05E	36	SKAMANIA	6.85	FEE	39500	92/10/21	
T02N R06E	2	SKAMANIA	3888.18	EXCHANGE	4824000	91/12/23	23592 MBF
T02N R06E	3	SKAMANIA	2390.14	EXCHANGE	5125000	94/01/24	23722 MBF
T02N R06E	21	SKAMANIA	16.00	FEE	40000	90/08/17	
T02N R06E	21	SKAMANIA	30.00	FEE	63200	92/08/18	149 MBF
T02N R06E	21	SKAMANIA	30.30	FEE	96100	91/11/19	
T02N R06E	22	SKAMANIA	30.00	FEE	100000	90/06/26	
T02N R06E	22	SKAMANIA	10.00	FEE	20513	89/10/20	
T02N R06E	22	SKAMANIA	11.81	FEE	44000	90/06/26	
T02N R06E	22	SKAMANIA	10.00	FEE	22500	92/02/26	
T02N R06E	22	SKAMANIA	20.03	FEE	39750	92/02/24	
T02N R06E	22	SKAMANIA	14.40	FEE	60100	91/12/09	
T02N R06E	23	SKAMANIA	80.00	FEE	84000	92/03/24	
T02N R06E	23	SKAMANIA	7.50	FEE	22500	92/03/13	

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA ACQUISITIONS

LIST BY LEGAL, ACRES, \$, TYPE, FT DATE

LOCATION	SEC	COUNTY	ACRES	TYPE	\$ AMOUNT	FINAL TITLE	COMMENTS
T02N R06E 28		SKAMANIA	20.00	FEE	57000	93/03/08	
T02N R06E 28		SKAMANIA	10.00	FEE	30000	93/03/25	
T02N R06E 28		SKAMANIA	10.00	FEE	16000	90/08/17	
T02N R06E 28		SKAMANIA	16.00	FEE	26000	89/10/20	
T02N R06E 28		SKAMANIA	20.90	FEE	70000	91/11/18	
T02N R06E 28		SKAMANIA	30.50	FEE	99400	92/02/24	
T02N R06E 28		SKAMANIA	3.00	FEE	22500	92/02/26	
T02N R06E 28		SKAMANIA	10.00	FEE	23700	92/07/09	
T02N R06E 28		SKAMANIA	11.90	FEE	42000	91/12/09	
T02N R06E 28		SKAMANIA	40.00	FEE	99000	92/08/11	
T02N R06E 29		SKAMANIA	10.00	FEE	30000	93/04/16	
T02N R06E 29		SKAMANIA	9.94	FEE	18500	92/03/24	
T02N R06E 29		SKAMANIA	10.00	FEE	23000	90/08/17	
T02N R06E 29		SKAMANIA	40.00	FEE	70000	91/12/09	
T02N R06E 29		SKAMANIA	12.59	FEE	21500	90/08/17	
T02N R06E 29		SKAMANIA	10.00	FEE	23000	89/10/20	
T02N R06E 29		SKAMANIA	9.95	FEE	18000	91/07/19	
T02N R06E 31		SKAMANIA	402.01	FEE	314000	90/06/26	
T02N R06E 31		SKAMANIA	7.90	FEE	135000	88/08/02	
T02N R06E 31		SKAMANIA	5.00	FEE	17500	90/06/26	
T02N R06E 31		SKAMANIA	13.00	FEE	38250	90/08/17	
T02N R06E 31		SKAMANIA	9.68	FEE	25700	90/10/29	
T02N R06E 31		SKAMANIA	9.94	FEE	29000	90/06/26	
T02N R06E 32		SKAMANIA	19.47	FEE	39000	91/11/19	
T02N R06E 32		SKAMANIA	9.87	FEE	21000	92/03/13	
T02N R06E 32		SKAMANIA	9.80	FEE	18000	92/03/25	
T02N R06E 32		SKAMANIA	135.00	FEE	406000	92/02/24	
T02N R06E 34		SKAMANIA	70.47	FEE	340000	92/03/24	
T02N R06E 35		SKAMANIA	1.68	FEE	15000	91/07/19	
T02N R06E 35		SKAMANIA	4.54	FEE	13500	90/10/29	
T02N R06E 35		MULTNOMAH	0.35	FEE	45200	89/07/27	
T02N R06E 35		MULTNOMAH	0.21	FEE	36000	89/07/27	
T02N R06E 35		MULTNOMAH	12.75	FEE	39000	92/02/12	
T02N R06E 35		MULTNOMAH	50.00	FEE	115600	92/02/05	
T02N R06E 36		MULTNOMAH	0.17	FEE	55000	89/07/27	
T02N R06E 36		MULTNOMAH	0.19	FEE	25000	91/09/06	
T02N R06E 36		MULTNOMAH	7.45	FEE	43300	92/02/12	
T02N R06E 36		MULTNOMAH	0.20	FEE	35600	92/02/05	
T02N R06E 36		MULTNOMAH	0.59	FEE	14000	92/03/09	
T02N R06E 36		MULTNOMAH	0.47	FEE	14500	92/03/09	
T02N R07E 13		HOOD RIVER	10.00	FEE	95000	92/01/28	
T02N R07E 14		HOOD RIVER	21.42	FEE	81000	92/03/24	
T02N R07E 17		SKAMANIA	60.00	FEE	428000	90/06/21	
T02N R07E 17		SKAMANIA	6.00	FEE	20500	92/03/09	
T02N R07E 19		SKAMANIA	29.18	FEE	46700	93/01/26	
T02N R07E 22		MULTNOMAH	26.50	FEE	6595	89/07/18	
T02N R07E 30		SKAMANIA	90.00	FEE	72000	92/02/05	
T02N R07E 31		MULTNOMAH	22.79	FEE	71500	92/02/27	
T02N R08E 1		HOOD RIVER	9.97	FEE	73000	92/09/08	
T02N R12E 2		WASCO	1.06	FEE	85000	92/03/24	
T02N R12E 2		WASCO	0.33	DONATION	0	92/03/30	
T02N R12E 2		WASCO	1.21	FEE	140000	92/03/24	
T02N R12E 3		KLICKITAT	57.78	FEE	870000	95/02/16	
T02N R12E 3		WASCO	9.60	FEE	38000	92/02/27	
T02N R12E 3		WASCO	5.00	FEE	14500	90/06/26	
T02N R12E 3		WASCO	4.51	FEE	4000	92/03/24	
T02N R12E 4		WASCO	2.94	FEE	11500	91/08/27	
T02N R12E 4		WASCO	37.77	FEE	43600	92/03/18	
T02N R12E 4		WASCO	130.00	FEE	234000	92/10/07	
T02N R12E 4		WASCO	40.00	FEE	91000	92/01/16	
T02N R12E 4		WASCO	88.36	FEE	217000	91/10/21	
T02N R12E 4		WASCO	56.25	FEE	35000	91/10/07	

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA ACQUISITIONS

LIST BY LEGAL, ACRES, \$, TYPE, FT DATE

LOCATION	SEC	COUNTY	ACRES	TYPE	\$ AMOUNT	FINAL TITLE	COMMENTS
T02N R12E	4	WASCO	64.83	FEE	143000	92/08/31	
T02N R12E	5	WASCO	24.77	FEE	62000	88/07/07	
T02N R12E	5	WASCO	3.30	FEE	83500	93/08/30	
T02N R12E	5	WASCO	160.00	FEE	253000	93/02/29	
T02N R12E	5	WASCO	9.34	FEE	38000	90/07/12	
T02N R12E	5	WASCO	10.00	FEE	91000	91/11/19	
T02N R12E	5	WASCO	10.14	FEE	41000	92/01/09	
T02N R12E	9	WASCO	100.45	FEE	75000	92/01/09	
T02N R12E	9	WASCO	585.02	FEE	1130000	93/10/07	
T02N R12E	10	WASCO	368.40	FEE	361000	93/10/15	
T02N R12E	11	WASCO	21.52	FEE	38000	91/07/09	
T02N R12E	11	WASCO	36.45	FEE	50000	91/11/24	
T02N R12E	13	WASCO	160.00	DONATION	0	91/10/28	
T02N R13E	7	WASCO	11.60	FEE	32500	92/02/27	
T02N R13E	17	WASCO	90.15	FEE	35000	92/02/26	
T02N R15E	13	Klickitat	777.00	FEE	272000	92/04/24	
T03N R08E	14	SKAMANIA	73.00	FEE	183000	88/08/02	
T03N R08E	22	SKAMANIA	91.66	FEE	211211	92/03/16	
T03N R08E	23	SKAMANIA	10.82	FEE	22000	92/02/27	
T03N R08E	24	SKAMANIA	420.00	EXCHANGE	301980	90/01/23	0 MBF
T03N R08E	24	SKAMANIA	777.36	EXCHANGE	1104000	90/01/23	3708 MBF
T03N R08E	25	SKAMANIA	269.83	FEE	135000	92/03/18	
T03N R08E	25	SKAMANIA	140.10	FEE	201400	91/09/19	
T03N R08E	25	SKAMANIA	220.90	PARTIAL	412000	94/02/07	CONSER. ESMENT
T03N R08E	26	SKAMANIA	20.19	FEE	74000	92/03/25	
T03N R08E	26	SKAMANIA	1.20	FEE	52000	92/03/02	
T03N R08E	26	SKAMANIA	7.00	FEE	50000	92/02/27	
T03N R08E	35	SKAMANIA	120.00	FEE	85000	92/02/27	
T03N R08E	35	SKAMANIA	37.38	FEE	18500	92/03/30	
T03N R08E	36	SKAMANIA	20.00	FEE	16000	90/06/26	
T03N R08E	27	SKAMANIA	60.00	FEE	48000	89/12/04	
T03N R09E	27	SKAMANIA	42.75	FEE	141000	92/02/27	
T03N R09E	29	SKAMANIA	622.00	FEE	866000	90/07/31	
T03N R09E	31	SKAMANIA	31.30	FEE	72000	91/12/09	
T03N R09E	34	SKAMANIA	7.60	FEE	29000	86/07/31	
T03N R09E	34	SKAMANIA	10.00	FEE	48600	92/01/06	
T03N R10E	26	HOOD RIVER	53.25	FEE	370000	91/11/19	
T03N R10E	31	HOOD RIVER	19.19	FEE	66000	90/07/12	
T03N R10E	31	HOOD RIVER	15.05	FEE	59000	91/10/07	
T03N R10E	32	HOOD RIVER	5.00	FEE	45500	91/08/16	
T03N R10E	32	HOOD RIVER	59.26	FEE	111000	90/06/21	
T03N R10E	32	HOOD RIVER	26.41	FEE	177000	91/11/19	
T03N R11E	3	Klickitat	50.00	FEE	148000	91/11/19	
T03N R11E	11	SKAMANIA	20.00	FEE	104000	95/03/20	
T03N R11E	12	Klickitat	40.00	FEE	48000	93/05/12	
T03N R11E	13	Klickitat	1909.02	FEE	1208600	91/09/06	
T03N R11E	13	Klickitat	219.35	FEE	633000	93/08/16	1003 MBF
T03N R11E	13	Klickitat	150.00	FEE	129000	89/07/27	
T03N R11E	23	Klickitat	20.00	FEE	54500	92/02/27	
T03N R11E	23	Klickitat	10.00	FEE	17500	91/09/06	
T03N R11E	23	Klickitat	20.00	FEE	28200	92/03/13	
T03N R11E	23	Klickitat	20.00	FEE	32000	92/03/02	
T03N R11E	26	Klickitat	40.00	FEE	87000	92/03/25	
T03N R11E	26	Klickitat	20.00	FEE	36000	90/06/05	
T03N R11E	26	Klickitat	63.30	FEE	52100	90/10/29	
T03N R11E	26	Klickitat	19.68	FEE	25600	90/06/21	
T03N R11E	26	Klickitat	27.70	FEE	62000	92/01/06	
T03N R11E	26	Klickitat	40.00	FEE	77000	91/11/19	
T03N R11E	27	Klickitat	5.00	FEE	15500	88/07/08	
T03N R11E	27	Klickitat	5.00	FEE	17500	91/07/19	
T03N R11E	27	Klickitat	13.67	FEE	26200	90/10/29	
T03N R11E	27	Klickitat	20.00	FEE	22000	88/08/08	

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA ACQUISITIONS

LIST BY LEGAL, ACRES, \$, TYPE, FT DATE

LOCATION	SEC	COUNTY	ACRES	TYPE	\$ AMOUNT	FINAL TITLE	COMMENTS
T03N R11E	27	KLICKITAT	4.40	FEE	14000	90/06/26	
T03N R11E	27	KLICKITAT	10.00	PARTIAL	30000	92/09/08	CONSER. ESMENT
T03N R11E	27	KLICKITAT	5.46	PARTIAL	25000	92/09/03	CONSER. ESMENT
T03N R11E	27	KLICKITAT	8.34	FEE	36000	92/02/12	
T03N R11E	27	KLICKITAT	5.00	FEE	16000	90/06/26	
T03N R11E	27	KLICKITAT	20.00	FEE	29000	92/04/03	
T03N R11E	27	KLICKITAT	14.66	FEE	42100	92/02/24	
T03N R11E	27	KLICKITAT	5.00	FEE	23500	90/06/26	
T03N R11E	27	KLICKITAT	10.00	FEE	38000	92/03/02	
T03N R11E	27	KLICKITAT	10.00	FEE	31000	92/04/03	
T03N R11E	27	KLICKITAT	25.00	FEE	57100	92/04/24	
T03N R11E	27	KLICKITAT	21.00	FEE	37900	92/01/06	
T03N R11E	27	KLICKITAT	5.00	FEE	24100	91/09/20	
T03N R11E	28	KLICKITAT	20.00	FEE	38000	89/07/27	
T03N R11E	28	KLICKITAT	4.89	FEE	16200	90/06/21	
T03N R11E	28	KLICKITA	15.00	FEE	15000	89/10/20	
T03N R11E	28	KLICKITAT	20.00	PARTIAL	37000	92/09/03	CONSER. ESMENT
T03N R11E	28	KLICKITAT	3.75	PARTIAL	16000	92/09/03	CONSER. ESMENT
T03N R11E	28	KLICKITAT	6.67	FEE	25500	92/02/12	
T03N R11E	28	KLICKITAT	8.33	FEE	31000	93/06/23	
T03N R11E	28	KLICKITAT	4.31	FEE	19000	90/10/29	
T03N R11E	28	KLICKITAT	5.00	FEE	17500	90/06/12	
T03N R11E	28	KLICKITAT	20.00	FEE	31000	92/04/03	
T03N R11E	33	KLICKITAT	56.65	FEE	76500	91/07/19	
T03N R11E	34	KLICKITAT	20.00	FEE	30000	89/03/08	
T03N R11E	34	KLICKITAT	20.00	FEE	30000	89/03/08	
T03N R11E	34	KLICKITAT	5.00	FEE	21000	90/06/05	
T03N R11E	34	KLICKITAT	2.50	FEE	15500	90/06/26	
T03N R11E	34	KLICKITAT	5.00	FEE	18500	91/02/07	
T03N R11E	34	KLICKITAT	3.00	FEE	13500	91/11/25	
T03N R11E	34	KLICKITAT	2.00	FEE	12000	90/10/29	
T03N R11E	34	KLICKITAT	20.00	FEE	42000	92/01/16	
T03N R11E	34	KLICKITAT	5.00	PARTIAL	19000	92/12/23	CONSER. ESMENT
T03N R11E	34	KLICKITAT	23.70	FEE	52860	92/02/12	
T03N R11E	34	KLICKITAT	4.50	FEE	18000	90/10/29	
T03N R11E	34	KLICKITAT	3.98	FEE	16000	91/08/20	
T03N R11E	34	KLICKITAT	10.12	FEE	47000	92/02/12	
T03N R11E	34	KLICKITAT	20.00	FEE	32000	90/06/26	
T03N R11E	34	KLICKITAT	5.00	FEE	25000	91/08/27	
T03N R11E	34	KLICKITAT	11.32	FEE	42000	92/01/10	
T03N R11E	34	KLICKITAT	20.30	FEE	36000	91/02/04	
T03N R11E	34	KLICKITAT	5.00	FEE	25000	91/02/04	
T03N R11E	35	KLICKITAT	60.00	FEE	30000	89/03/08	
T03N R11E	35	KLICKITAT	10.00	FEE	17500	89/10/24	
T03N R11E	35	KLICKITAT	10.00	FEE	16000	90/06/26	
T03N R11E	35	KLICKITAT	20.00	FEE	26200	90/06/26	
T03N R12E	30	KLICKITAT	77.10	FEE	193000	91/02/07	
T03N R12E	31	WASCO	7.80	FEE	125000	91/07/09	
T04N R10E	13	KLICKITAT	36.70	FEE	459000	95/03/30	
T04N R10E	36	KLICKITAT	8.89	FEE	80000	92/03/02	
T04N R11E	18	KLICKITAT	38.48	FEE	450000	90/06/26	
T04N R11E	30	KLICKITAT	5.71	FEE	45000	93/04/30	
T04N R12E	31	KLICKITAT	40.00	FEE	108200	91/10/24	

Grand Total. 303 Records

\$32,357,344

FEE & PARTIAL

Total Acres 26.181.97

\$18,184,480

EXCHANGES

Oregon Counties: Hood River, Multnomah, and Wasco

Washington Counties: Clark, Klickitat, and Skamania

223. Question. Please provide for the record a description of the land that has been authorized for acquisition within the Columbia River Gorge NSA that remains to be acquired, including the location, estimated cost, any offers that have been made, when the land is expected to be acquired, and the expected benefits to the Forest Service that these parcels will provide.

Answer. There are approximately 7,000 acres within the National Scenic Area that remain to be acquired. The estimated value of the land is \$23 million. A complete listing of these tracts has not been compiled. A list identifying 1,207 acres for acquisition is included. This listing includes a combination of Section 8(o) parcels and other parcels that rank high in priority with landowners who are willing to sell. The President's Budget of \$2 million will allow acquisition of less than half these lands. We expect to utilize tripartite exchange (timber for land) to supplement land acquisition funding.

Currently, five offers to purchase land in FY 1996 have been made. The total value of these offers exceeds \$800,000. In addition, we are preparing another six to eight offers that will be sent out next month.

Properties available for Acquisition in FY 1996

The following were offered under Section 8(o) of the NSA Act:

1. Upper Cape Horn Washington, Dist. 3 Acres 265 \$1.4 million
(Schmid Family)

A total of 520 acres was offered to the NSA. After field review of the individual parcels utilizing criteria of potential Threat and Significance, it was determined that only the 265 acres of the resources needed to be protected. If these parcels revert to GMA designation the immediate threat would be that land could be logged and residential dwellings would be allowed. One parcel indicated that watershed restoration would be needed in conjunction with State Fish and Wildlife for the protection of fisheries. Visual resources would be severely damaged from key viewing areas and State Highways, in both the states of Washington and Oregon. One parcel has a Rock Quarry operation and further degradation would continue.

2. Hamilton Mt. Washington, Dist. 3 Acres 155 \$775,000
(Tomlin)

If this parcel reverted to a GMA designation, commercial timbering could be allowed with a good chance of a residential dwelling being allowed. This land is designated as a Natural Area, has cultural significance and the scenic value of this site would be greatly threatened. The visual threat is magnified by its openness from key viewing areas, such as Bonneville Dam, Beacon Rock, Munra Pt. and both State Highways.

3. Ives Island Washington, Dist. 3 Acres 5 \$50,000
(Heuker)

This would complete the acquisition of Ives Island for a total of 95 acres. If reverted to GMA designation, there is the threat if

one residential dwelling on this site. This would create a visual impact from key viewing areas and potentially affect the parcel and its resources the NSA has already acquired.

4. Pepper Mt. Oregon, Dist. 3 Acres 180 \$1.1 million
(Longview Fiber Co.)

Initially 220 acres were offered to the NSA. After a field review of these parcels, it was determined that only 180 acres needed to be protected. This is in a significant viewing area that can be seen from Crown Point in Oregon and Cape Horn, Mt. Pleasant and State Highway 14 in Washington. If allowed to revert to GMA designation, commercial timbering would be allowed. There is some old growth timber on the property and should be protected under the intent of the NSA Act.

5. Lower Cape Horn Washington, Dist. 3 Acres 42 \$159,000
(Osborne)

This parcel is in a Natural Area having significant scenic resources. It is at the junction of State Highway 14 and Cape Horn Road on the Washington State side and any development of this beautiful Natural Area would be jeopardized. Any significant disturbance of the natural areas in the general Cape Horn Area is to be avoided. The Trust for Public Land recognized this and is obtaining an option to acquire this land as it was for sale in the open market. They will hold the option till which time the NSA can acquire the parcel from them.

Properties available for Acquisition in FY 1996

The following lands were identified as high priority, utilizing the Land Acquisition Strategy Plan, with the landowner indicating their willingness to sell their land:

6. Rowena Oregon, Dist. 2 Acres 105 \$263,000
(Buhl)

This parcel is a southern facing slope of the Rowena Dell area in an existing Natural Area. Along with preserving the ecosystem of the area and having visual significance from the Washington State side of the Gorge, this parcel has been identified for trail development of a trail system for the whole Rowena Dell area which ties into Oregon State Parks' camping and picnic facilities. The offer to sell to the NSA has been made by the landowner. The parcel ties in with others lands the NSA has already acquired to protect this whole ecosystem.

7. Coyote Wall Washington, Dist. 3 Acres 10 \$45,000
(Lear)

These 10 acres are within a major viewshed from the community of Mosier and Interstate 84 and key viewing areas from the Oregon State side of the Gorge and lies within a magnificent geological formation. Any potential development of this parcel now or in the future will have a significant impact on the general area and with the Catherine/Major Creek Open Space Plan area. The offer to sell to the NSA has been made by the landowner.

8. Dog Mt. Base Washington, Dist. 3 Acres 6 \$30,000
(O'Brien)

This parcel is at the southerly base of Dog Mt., south of Highway 14. Though there is no access at this time to the parcel, it is adjacent to an occupied Native American Site and would have an adverse visual impact if development were to be allowed on the site from key viewing areas on the Oregon State side of the Gorge. The landowner has offered this parcel to the NSA.

9. Burdoin Mt. Washington, Dist. 3 Acres 5 \$15,000
(Ibsen)

These 5 acres would have an effect on the Catherine/Major Creek Open Space Plan area. The parcel is within a quarter of a mile of a major Natural Area having many significant resources. Acquisition would aid in the protection of these resources. Any potential development of this site would significantly impact the visual aspects of the area from Interstate 84 and key viewing areas from the Oregon State side of the Gorge. The landowner has offered the property to the NSA.

10. Labyrinth Area Washington, Dist. 3 Acres 40 \$75,000
(Kreps)

This Natural Area is within the Catherine/Major Creek Open Space Plan area and has many significant resources. Besides its scenic value, this site is a sensitive cultural area and has magnificent geological formations. There are threatened and endangered plants and animals and many streams and waterfalls. The Washington State Natural Heritage has also identified this area as a significant Natural Area.

11. West Fork Washington, Dist. 3 Acres 194 \$230,000
(Boles)

This parcel is within the Catherine/Major Creek Open Space Plan area to determine the future use of this Natural Area. The significance of this land is to protect the visual and scenic and some of its natural resource attributes which can be seen from Interstate 84 and key viewing areas from the Oregon State side of the Gorge. Any potential development of this site would adversely affect this Natural Area. The NSA has asked The Trust for Public Land to pursue the acquisition of this parcel.

12. East Fork Washington, Dist. 3 Acres 200 \$250,000
(Cochenour)

As with the West Fork parcel, it is within the Catherine/Major Creek area to determine the use of this Natural Area. If development were to occur there would be a threat to the visual, scenic and some natural resources that could be seen from the Oregon side of the Gorge. The NSA has asked The Trust for Public Land to pursue acquiring this parcel.

Total Acreage= 1,207 Total Estimated Value= \$4,392,000

224. Question. Please provide a description of the Forest Service methodology to determine value of land subject to federal or State

restrictions to protect rare, threatened or endangered species and identify all statutes, regulations and other administrative guidelines which govern the valuation process.

Answer. Federal laws such as the Endangered Species Act do not effect the appraised market value unless it is reflected in the prices paid for private lands. The appraiser will consider the impact of State and local land use laws that affect value. In the case of endangered species, the State of Washington has laws that limit the use of private land to protect those species and could affect land values. Appraisal reports are prepared in accordance with the Uniform Appraisal Standards for Federal Acquisitions.

Currently, the Forest Service does not use a standardized data base system to record the characteristics of land and tree stands within its forests. For example, Regions 2, 3, and 4 use the Resource Information System, while Region 1 uses the Stand Data Base system and Region 8 uses the Continuous Inventory Stand Condition data base. Some regions are still in the process of implementing and improving these database systems. These databases provide the basis for work conducted and accomplished throughout the forests and they should increase the ability of the Forest Service to gather and report information on work accomplished annually.

225. Question. Has the Forest Service ever conducted a study to determine which of these data bases is the most useful for reporting purposes?

Answer. The Forest Service has not completed a Servicewide study that focuses on forest stand level data bases. However, the Forest Service Information Management Framework completed in 1992 outlines a vision for a desired future information environment and the process by which the agency would migrate to that environment. A number of efforts have been undertaken in the last 3 years to implement this framework establishing models describing the strategies, business and information of the agency to serve as a context for coordinating future information development projects.

Another limiting factor has been the age and limitations of the Forest Service technology base. In the past, the Agency has not been able to adequately expand existing capability to incorporate the principle of fully integrated systems. Project 615 will provide the modern processing technology and tools required to develop standardized data bases. Project 615 will give the Agency modern hardware and software technology. This technology will be implemented over the next 5 years and will provide the foundation to coalesce the number of stovepipe systems and databases into a cohesive integrated environment.

Many upward reporting systems are standard nationally (e.g., TSPIRS), while the stand information databases used at the field level tend to vary according to local needs. The commonality among these databases is meeting today's reporting needs. However, current efforts are focusing on developing a common set of data elements, with agreed-upon definitions to facilitate sharing of data across boundaries, internally and externally. These efforts are also developing a standard database structure to replace the functional databases we currently have.

226. Question. Why doesn't the Forest Service use a standardized database?

Answer. The decentralized organization of the Forest Service and its mission to deliver services effectively at the local level has given rise to diverse services (including databases) to meet the needs of diverse communities.

One of the changes taking place today is a growing impetus to share information and work together across jurisdictions, ecosystems, and scales. The Forest Service is actively working internally, as well as with other agencies and partners, to identify commonly used resource data, and to develop appropriate standards and databases to facilitate efficient and effective delivery of services, both for the local communities as well as for the nation as a whole. We do not believe it will ever be the case that a single "standardized database" will meet the gamut of diverse needs, but we do recognize that efficiencies are possible and are necessary. We are working closely with the Federal Geographic Data Committee (FGDC) to adopt emerging national standards and participate in building the National Spatial Data Infrastructure.

The Forest Service has steadily worked on implementing the Geographic Information System (GIS) to improve its inventory data and analysis for forest resources.

227. Question. What are the benefits and costs of the Forest Service GIS?

Answer. Costs and benefits for the GIS system are as follows:

Cost:	\$311,671,000
Benefits:	\$1,494,774,000
Benefit/Cost Ratio:	\$3.55

Mitre Corporation performed an independent Benefit/Cost Analysis of Project 615 and in their report entitled, "In the Integrated Information Management Program: Geographical Information System and Administrative, Scientific, and Technical Applications Support Revised Benefit/Cost Analysis, USDA, Forest Service, October 1991, Revised March 1992," Section 5 - Benefits, page 5-25, stated:

"A survey was conducted of the national forests to estimate the size of this backlog of work. The results of the survey, summarized in table 5-25, identified a current total backlog of 9,195 PFT-years. When projected for the duration of Project 615, this results in a total backlog over 12 years of 83,027 PFT-years, which is in excess of the quantified benefits shown in previous subsections. The survey identified 73 percent (6,712 PFT-years) of the backlog as work of a recurring nature, and 27 percent (2,483 PFT-years) as non-recurring. This means that the total number of PFT-years required to eliminate the backlog over a 12-year period would be $(6,712 \times 12) + 2,483 = 83,027$. From table 5-10, the total productivity increase over 12 years for the Forest Level Optimization Alternative is 47,734 PFT-years, which is less than the estimated backlog over the same period. Thus, the productivity gains for Project 615 allow the Forest Service to address this increased workload and partially avoid the cost of increased staff or contracting out more of the workload. While the use of the productivity gains as a cost avoidance

type of benefit does not quantify the value of work performed (as a traditional economic benefit requires), the work is required through legislation, regulation, court decisions and appeals related to Forest Service management activities, and therefore the work must be completed."

An additional benefit is that for the first time we will be able to do analysis for any issue at almost any scale and have consistent and reliable data. This will make it much more efficient to do Forest Planning and we will be able to generate reports on new alternatives much faster.

228. Question. What is the estimated time for full implementation?

Answer. Full implementation will take approximately 5 years, comprised of two phases as follows:

Phase 1: Pilot Year - Duration 12 months. As part of the resolution of concerns raised by GAO, the Forest Service has agreed with Congress and the GAO that the first year of implementation of Project 615 will be a "pilot" year. During this pilot, the Forest Service will test various configurations of hardware, software, and telecommunications to determine which combinations are most appropriate to the volume of business and the roles of each Forest Service office. These tests will also identify conditions and constraints under which configurations other than the "optimum" may be necessary. Design of the tests, monitoring of progress, and analysis of results of this pilot will be conducted by an independent contractor. At the conclusion of the 12-month pilot phase, a report on the lessons learned and plans for full implementation will be prepared and submitted to GAO and the Congressional Appropriations Committees.

Phase 2: Full Implementation - Duration 4 years. Upon completion of the Pilot Year and submission of the Pilot Year report to Congress, full implementation will begin at a rate which will place the new technology in all Forest Service offices where GIS technology is needed over a four year period.

229. Question. Is accurate data available to build the initial data base? If not, what would be the costs of obtaining accurate information?

Answer. Much of the basic geospatial data is available. Some units have the data and are ready to implement GIS. The Cartographic Feature File developed through the Geomtronics Service Center provides a large part of the data identified as the first phase of the Federal Geographic Data Committee's Framework (e.g., geodetic control, elevation). Themes of geospatial data (e.g., soil and vegetation) are also available at some units.

CLIMATE CHANGE ACTION PLAN

The FY 1996 Forest Service budget proposes \$7.3 million for Climate Change Action Plan activities. Of this amount, \$.5 million would be directed toward possible application of recyclable wood and paper for housing components, use of wood and other waste material in composite products, and broader applications for paper products

made from degraded cellulosic fibers. In addition, \$6.8 million in the State and Private Forestry appropriation would be used for tree planting and forest improvement practices to mitigate the effects of global warming and to provide for technical assistance and stand evaluations.

230. Question. How much funding for the climate change action plan was provided in FY 1994 and FY 1995 for wood and paper recycling? What was accomplished with this money?

Answer. Forest Research's National Problem in Recycling and Wood Use, provides a quality in-place research program for contributing toward the Climate Change Action Plan goal of reducing carbon dioxide emissions and sequestering more carbon in forests through improved conservation and recycling. No Forest Research funding was appropriated or allocated in FY 1994 for the Climate Change Action Plan. In FY 1995, \$250,000 was appropriated for Forest Research to implement additional recycling research toward the objectives of the Climate Change Action Plan. This funding was to be applied toward research on: developing housing components from recyclable wood and paper; use of wood and other waste material in developing composite products; and research on broader applications for paper products made from degraded cellulosic fibers. In FY 1995 the work has focused on determining and characterizing the structural performance of composite materials, including wood-plastic and wood-cement.

231. Question. The recycling and wood use initiative was established in FY 1992. How is this initiative different from the ongoing recycling and wood use program?

Answer. Before 1992, our recycling efforts were not in a focused program. The 1992 Recycling Initiative developed a research program divided into three integrated research areas with the following major objectives: 1) Enhance paper recycling technology, 2) Develop alternative nonpaper technologies for using recovered wood fiber and wood, and 3) Evaluate the economics of new technologies for using recovered paper and wood from solid waste. This 1992 Initiative provided the basis for our Recycling and Wood Use National Problem.

232. Question. What progress has been made on the FY 1992 recycling initiative?

Answer. Considerable progress has been made as a result of the FY 1992 recycling initiative. Four problem areas were identified in the 1993 research plan under the area of wastepaper to paper recycling - new bleaching technologies: feedstocks with mixed lignin contents, photoreversion, color stripping, and aggregation of cellulose.

Recycling of wastepaper and wood waste continues to be an emphasis area for Forest Service Research and the Forest Products Laboratory (FPL). In the past year an initiative for developing technologies needed to produce housing materials--structural and non-structural--from wastepaper and wood waste was begun. An overall Forest Service recycling research plan has been developed that incorporates FPL recycling research activities. This plan provides the overall strategic planning for Forest Service recycling research in the areas of 1) raw material assessment and

environmental benefits, 2) recycling technology research and development needs for paper products, and 3) technology research and development needs for housing components and other value-added products.

The above are further explained in the following Reports: 1) "Recycling FY 1993 Accomplishments and Activity for FY 1994" and 2) "Recycling FY 1994 Accomplishments and Activity for FY 1995". These reports are available upon request.

233. Question. How much funding for the climate change action plan was provided in FY 1994 and FY 1995 for tree planting and forest improvement practices? What was accomplished with this money?

Answer:

	FY 1994 <u>Final</u>	FY 1995 <u>Final</u>
	(\$ in thousands)	
Forest Stewardship	100	0
Stewardship Incentives Program	<u>1,600</u>	<u>3,200</u>
TOTAL	1,700	3,200

The FY 1994 budget provided \$1,600,000 for accelerated tree planting on 24,300 acres of nonindustrial private forest lands under the President's Climate Change Action Plan. The FY 1995 budget provided \$3,200,000 for tree planting on approximately 48,000 acres. Tree planting is accomplished through the Stewardship Incentives Program. The distribution for tree planting is based on 90 percent of the acreage in the South, 5 percent in the North, and 5 percent in the West (PNW).

The FY 1994 budget included \$100,000 to continue Forest Stewardship program assistance on nonindustrial private forest lands for pre-harvest planning aspects of the Climate Change Action Plan. No funding was included in the FY 1995 budget for this activity.

Reforestation and harvesting assistance conducted as part of the regular Stewardship Incentives/Forest Stewardship program contribute to the storage of carbon in forest vegetation and soils. These activities, however, are part of the baseline projection for green house gas emissions. It is the increase in reforestation and harvesting assistance that will enable the Climate Change Action Plan to achieve its goal of reducing green house gas emissions to 1990 levels by year 2000.

AMERICORPS INITIATIVE

234. Question. The AmeriCorps initiative is identified in the Forest Service budget for \$10 million. How will the AmeriCorps program assist the agency in accomplishing its FY 1996 program of work? What are the primary activities or functions that the AmeriCorps enrollees will work on?

Answer. The AmeriCorps program members assist the agency by accomplishing a variety of backlog conservation work. Public Lands and Environment projects involve activities such as recreation management, species habitat management, wildlife management, trail construction and maintenance, and reforestation. Rural development projects are focused on community service activities such as building senior citizen centers, assisting schools in various ways, and conducting surveys and assessments, etc.

235. Question. How many enrollees does the Forest Service plan to have on board during fiscal year 1996?

Answer. The Forest Service plans to have 550 members on board during fiscal year 1996.

236. Question. Will funding through AmeriCorps provide a relief for the need for other appropriations? Is it less expensive to accomplish program work through Americorps than through employees or contractors?

Answer. Funding for AmeriCorps is reflected in our 1996 budget request and will not supplant the need for other appropriations. And, as assumed in our budget request, it is less expensive to accomplish work because AmeriCorps members are paid at the minimum wage.

237. Question. What is the optimum use of the program in terms of number of enrollees and appropriation needs.

Answer. The Forest Service views 400-550 AmeriCorps members as optimum use for the program.

238. Question. Are the funds intended for the AmeriCorps program in addition to normal program funds.

Answer. The funds used for the AmeriCorps program are not in addition to normal program funds. The Forest Service is accomplishing planned work through the AmeriCorps program.

239. Question. During a December appropriations staff meeting, staff was informed that a reprogramming request would be forthcoming for approval to begin the AmeriCorps program. Is the Forest Service funding a FY 1995 AmeriCorps program? If so, under what authority was it started?

Answer. Americorps is authorized by the National and Community Service Trust Act of 1993 (P.L. 103-82), and administered by the Corporation for National and Community Service. The Department of Agriculture is involved in all three of the Americorps programs with about 1,200 members. The Americorps programs include 1) Anti-Hunger, Nutrition and Empowerment; 2) Rural Development; and 3) Public Lands and Environment.

The Forest Service is involved in the Rural Development and Public Lands and Environment programs. The Rural Development program will assist rural communities in development of housing, running water, and economic diversification, in responding to disasters and repairing environmental damage. Under the Public Lands and Environmental program, Americorps will help communities reduce environmental hazards and work on public lands to conserve, restore, and sustain natural ecosystems.

The Forest Service is operating a \$10 million Americorps program in 1995. This would provide for enrolling 355 members in FY 1995. It is planned to enroll 281 members in the Public Lands and Environmental Corps through the National Forest System program, and 74 members in the Rural Development Team (RDT) Corps through the State and Private Forestry program.

The reprogramming necessary for Americorps is part of a larger reprogramming proposal now under review within the Administration.

NATIONAL BIOLOGICAL SERVICE

The Forest Service has an established research effort of many years and has worked cooperatively on research projects with Department of the Interior bureaus.

240. Question. How much interaction is occurring between the Forest Service and the National Biological Service? How do you see the Bureau's activities interfacing with the Forest Service research efforts?

Answer. The Forest Service has the largest natural resource research organization in the Nation; and as such, we have a high level of interest in cooperation, coordination and collaboration with Department of Interior (DOI) and the National Biological Service (NBS). In 1993, Forest Service Research (FSR) provided two senior research managers to NBS for 4 months to assist in the development of NBS initiatives and the FY 1994 NBS Budget Justification package. Effective FY 1994, we established a formal FS/NBS Liaison position, whose responsibility is to serve as a linkage between our two research organizations at the National level, and to reduce the likelihood of duplication. However, that position is currently unfilled. Finally, Forest Service Research and NBS senior management have established a regular research coordination meeting. At the field level, numerous collaborative projects are ongoing which were in place prior to the formation of NBS with scientists from other Interior bureaus, who are now employees of NBS.

241. Question. Is the Forest Service continuing to perform research for or in conjunction with Department of the Interior bureaus? Explain.

Answer. The Forest Service, as the primary forestry research organization in the Federal Government, considers land managing agencies within USDI as important clients. In this light, and in the attempt to eliminate unnecessary duplication among Federal Agency programs, we seek their input on research needs and priorities and consider them customers and users of our research accomplishments. Forest Service Research (FSR) has continued to provide direct service to USDI Bureaus (BLM, NPS, F&WS, BIA), but with some reductions, since the NBS was created. Many of the research links that FSR had with Department of Interior bureaus were shifted to the NBS with the establishment of that new bureau. Since that establishment, FSR has been forming collaborative partnerships and coordinating efforts with the NBS in order to address our common goal of providing the best available science and information to support natural resource management. Elimination of the NBS with continuation of the bulk of the NBS research activities reverting back to the USDI Bureaus, would require FSR to rebuild and strengthen our long term service and research links with those Bureaus. However, FSR is also being faced with suggested significant budget cuts that will limit our ability to do so. The proposed cuts to the FSR budget combined with those proposed to USDI research will have a major impact on all land management agencies served by the combined research efforts of the Forest Service and USDI Bureaus.

242. Question. It has been proposed that the National Biological Service be eliminated in its entirety. How would this affect the Forest Service? How would it impact the availability of data for the Forest Service Geographic Information System?

Answer. The elimination of the NBS would curtail overall research efforts targeted at understanding the functioning and sustainability of ecosystems. However, the elimination of the NBS would have only minimum impact on availability of data for the Forest Service Geographic Information System (GIS) if any impact at all. Currently, 95% of the data we gather on our National Forests comes from surveys we carry out. This is the information that will be used to populate the GIS - at least that part which covers NFS lands. The other forested lands are covered by Forest Inventory Analysis (FIA) plots and a variety of interagency remote sensing activities (of which NBS is a partner) - but we have access to or will have access to this data regardless of the NBS. The only weak links are that NBS has initiated a major mapping program of the National Parks and the Gap Analysis Program (which was transferred to NBS from the F&WS). These could certainly add and supplement a "national" GIS layer of all lands. Then again, these programs could be given back to their respective bureaus if NBS were abolished.

PRIVATIZATION OF FOREST SERVICE LANDS

243. Question. How many ski areas nationwide are located on national forest lands? Please list the specific names and locations of the ski areas.

Answer. Following are the 130 ski areas:

<u>Ski Areas</u>	<u>National Forest</u>	<u>In Ski</u>		
		<u>Area NFS</u>	<u>PVT*</u>	<u>Total</u>
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
<u>ARIZONA:</u>				
Arizona Snowbowl	Coconino	777	0	777
Mt. Lemmon	Coronado	170	15	185
William Ski	Kaibab	29	0	29
<u>CALIFORNIA:</u>				
Alpine Meadows	Tahoe	1,158	842*	2,000
Bear Mountain	San Bernadino	698	67	765
Bear Valley	Stanishaus	1,289	0	1,289
Big Air Green Valley	San Bernadino	40	0	40
Boreal Ski	Tahoe	150	470	620
Cedar Pass	Modoc	42	0	42
Dodge Ridge	Stanislaus	708	0	708
Donner Ski Ranch	Tahoe	22	528*	550
Heavenly Ski	Tahoe	3,544	1,238*	4,782
June Mountain	Inyo	1,385	0	1,385
Kirkwood Ski	Eldorado	2,380	721	3,101
Kit Carson				
(formerly Iron Mt.)	Eldorado	1,025	65	1,090
Kratka Ridge	Angeles	58	0	58

*Privately Owned or Leased

<u>Ski Areas</u>	<u>National Forest</u>	<u>In Ski</u>		
		<u>Area NFS</u>	<u>PVT* Total</u>	<u>Acres</u>
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Mountain High (East & West)	Angeles	339	0	339
Mt. Baldy	Angeles	791	0	791
Mt. Shasta Ski Park (Planning)	Shasta-Trinity	0	0	0
Mammoth Mountain	Inyo	3,200	0	3,200
Mt. Waterman	Angeles	211	0	211
Shirley Meadows	Sequoia	20	0	20
Sierra Summit	Sierra	1,420	0	1,420
Sierra at Tahoe (Sierra Ski Ranch)	Eldorado	1,525	0	1,525
Ski Sunrise	Angeles	53	0	53
Snow Summit	San Bernadino	620	0	628
Snow Valley	San Bernadino	520	0	520
Snowcreek	NOT OPEN YET			
Squaw Valley	Tahoe	121	2,440	2,561
Stover Mountain	Lassen	13	0	13
Sugar Bowl	Tahoe	114	1,100	1,214
<u>COLORADO:</u>				
Arapahoe Basin	Arapaho-Roosevelt	825	0	825
Aspen Highlands	White River	3,116	784*	3,900
Aspen Mountain	White River	960	94*	1,054
Beaver Creek	White River	2,770	2,830*	5,600
Breckenridge	White River	2,840	195	3,035
Berthoud Pass (Closed - Chapter 11)	Arapaho-Roosevelt	880	0	880
Copper Mountain	White River	7,113	90	7,203
Crested Butte	Gunnison	4,908	50	4,958
Cuchara Valley	Pike-San Isabel	342	65	407
Eldora Mountain	Arapaho-Roosevelt	480	220	700
Keystone (Planned)	White River	5,330	40	5,370
Lake Catamount (Not Operational)	Routt	0	0	0
Loveland	Arapaho-Roosevelt	2,280	0	2,280
Monarch Ski	Pike-San Isabel	621	0	621
Mountain Cliffe (CLOSED)	Pike-San Isabel	258	60	318
Powderhorn Resort	Grand Mesa	1,510	40	1,550
Purgatory-Durango	San Juan	2,380	681	3,061
Silver Creek (ALL PVT.)	Arapaho-Roosevelt	--	ALL	--
Ski Cooper	Pike-San Isabel	890	0	890
Ski sunlight	White River	2,081	681	2,762
Snowmass	White River	5,317	2,055*	7,372
Steamboat	Routt	2,328	209*	2,537
Telluride Ski	Uncompaghre	3,460	720	4,180
Tiehack	White River	691	223*	914
Vail	White River	12,590	183	12,773
Winter Park	Arapaho-Roosevelt	7,651	115	7,766
Wolf Creek	Rio Grande	1,196	0	1,196
<u>MINNESOTA</u>				
Lutsen Mountains (Nordic Only)	Superior	16	1,484	1,500

*Privately Owned or Leased

<u>Ski Areas</u>	<u>National Forest</u>	In Ski		
		<u>Area NFS</u>	<u>PVT*</u>	<u>Total</u>
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
<u>MONTANA:</u>				
Big Mountain	Flathead	3,072	290	3,362
Bridger Bowl	Gallatin	1,170	305*	1,475
Discovery Basin	Deerlodge	1,925	0	1,925
Lost Trail	Bitterroot	658	0	658
Marshall Mountain	Lolo	80	110*	190
Maverick Mountain	Beaverhead	445	0	445
Montana (Missoula)				
Snow Bowl	Lolo	1,125	80	1,205
Red Lodge Mountain	Custer	1,289	138*	1,427
Rocky Mountain Hi	Lewis & Clark	449	0	449
Showdown	Lewis & Clark	673	0	673
Turner Mountain	Kootenai	650	0	650
<u>NEVADA:</u>				
Ski Incline				
(Was Diamond Peak)				
Managed by: LTBMU	Toiyabe	292	300	592
Lee Canyon	Toiyabe	644	0	644
Mt Rose/Slide Mountain	Toiyabe	590	520*	1,110
<u>IDAHO:</u>				
Bogus Basin	Boise	2,251	360	2,611
Brundage Mountain	Payette	3,360	0	3,360
Hitt Mountain	CLOSED	--	--	--
Lookout Pass	Idaho Panhandle	340	0	340
Magic Mountain	Sawtooth	339	0	339
North-South Bowl	Idaho Panhandle	23	60	83
Pebble Creek	Caribou	1,100	0	1,100
Pomerelle	Sawtooth	522	0	522
Ski Kelly	Targhee	430	140	570
Soldier Mountain	Sawtooth	1,147	0	1,147
Sun Valley	Sawtooth	3,300	135	3,435
Pryette Lake	Payette	76	0	76
<u>MICHIGAN:</u>				
Indianhead	Ottawa	12	308*	320
<u>NEW HAMPSHIRE:</u>				
Allitash	White Mountain	278	339	617
Loon Mountain	White Mountain	785	65	850
Waterville Valley	White Mountain	782	18*	800
Wildcat Mountain	White Mountain	903	0	903
<u>NEW MEXICO:</u>				
Red River	Carson	511	1	512
Sandia Peak	Cibola	773	172*	945
Santa Fe	Santa Fe	585	0	585
Sipapu Lodge	Carson	185	13	198
Ski Apache	Lincoln	860	115	975
Snow Canyon				
(Ski Cloudcroft)	Lincoln	80	60*	140
Taos	Carson	1,113	40	1,153

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<u>Ski Areas</u>	<u>National Forest</u>	<u>In Ski</u>	<u>PVT*</u>	<u>Total</u>
		<u>Area NFS</u>	<u>Acres</u>	<u>Acres</u>
<u>OREGON:</u>				
Anthony Lakes	Wallowa-Whitman	2,046	0	2,046
Cooper Spur	Mt. Hood	1,400	0	1,400
Hoodoo Ski	Willamette	582	0	582
Mt. Bachelor	Deschutes	8,060	0	8,060
Mt. Hood Meadows	Mt. Hood	3,136	0	3,136
Mt. Hood Ski Bowl	Mt. Hood	920	12	932
Ski Ashland	Rogue River	189	0	189
Spout Springs	Umatilla	1,600	0	1,600
Summit Ski	Mt. Hood	51	0	51
Timberline	Mt. Hood	1,422	0	1,422
Warner Canyon	Fremont	178	36*	214
Willamette Pass	Willamette	1,100	0	1,100
<u>SOUTH DAKOTA:</u>				
Terry Peak	Black Hills	40	470	510
<u>UTAH:</u>				
Alta	Wasatch-Cache	1,600	600*	2,200
Beaver Mountain	Wasatch-Cache	467	31*	498
Brian Head	Dixie	405	1,043*	1,448
Brighton	Wasatch-Cache	851	39	890
Snowbasin	Wasatch-Cache	1,801	199	2,000
Snowbird	Wasatch-Cache	1,593	529*	2,122
Solitude	Wasatch-Cache	363	922	1,285
<u>VERMONT:</u>				
Bromley	Green Mountain	182	492*	674
Mt. Snow	Green Mountain	89	1,611	2,505
Sugarbush	Green Mountain	1,916	2,624	4,540
<u>WASHINGTON:</u>				
Alpental, et al	Mt. Baker-Snoqualmie	1,768	649	2,417
49 Degrees North	Colville	2,200	120	2,320
Crystal Mountain	Mt. Baker-Snoqualmie	4,574	0	4,574
Loup Loup	Okanogan	565	0	565
Mission Ridge	Wenatchee	1,040	840*	1,880
Mt. Baker	Mt. Baker-Snoqualmie	994	0	994
Ski Bluewood	Umatillia	1,597	0	1,597
Stevens Pass	Mt. Baker-Snoqualmie	2,480	34*	2,514
White Pass	Wenatchee	625	0	625
<u>WEST VIRGINIA:</u>				
Timberline	Monongehela	27	150	177

*Privately Owned or Leased

<u>Ski Areas</u>	<u>National Forest</u>	<u>In Ski</u>		
		<u>Area NFS</u>	<u>PVT*</u>	<u>Total</u>
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
WYOMING:				
Antelope Butte	Bighorn	883	0	883
Grand Targhee	Targhee	2,353	0	2,353
High Park	Bighorn	151	0	151
Jackson Hole	Bridger-Teton	2,549	430	2,979
Sleeping Giant	Shoshone	1,147	0	1,147
Snow King	Bridger-Teton	370	355*	725
Snowy Range	Medicine Bow	464	0	464
White Pine (CLOSED)	Bridger-Teton	--	--	--

TOTALS		182,655	33,068	215,723

*Privately Owned or Leased

244. Question. What are the number of acres of national forest lands in each ski area?

Answer. The number of acres of National Forest land in ski areas is provided in question #243 above.

245. Question. What is the amount of privately owned acres in the ski area, if any, compared to those in federal ownership?

Answer. The amount of private owned or leased acreage is provided in question #243 above.

246. Question. What is the existing relationship between ski area managers and the federal government?

Answer. Ski areas are authorized to operate on the National Forests under a special use permit. Most permits are for a 40-year period. The special use permit requires ski areas to protect the land, pay a fee, provide skiing, provide equal access under the Civil Rights Act and Americans with Disability Act, and numerous other provisions.

We view the ski areas as partners in providing downhill skiing for the public. It is a long-standing partnership that has worked for over 50 years.

247. Question. Is there a rental fee, of some sort, paid by an individual ski area manager/owner to the Forest Service?

Answer. Yes. We currently calculate fees for ski area permits under the Graduated Rate Fee System (GRFS), which was developed administratively in 1965 and implemented for ski areas in 1972. GRFS is a fee system based on ski area revenues and capital investment in fixed assets by ski area permittees. GRFS fees are based not only on revenue that permittees receive from skiing on NFS lands, but also on revenues from permittee sales on private lands within the base development boundary.

The National Forest Ski Area Permit Act of 1986 requires that fees for ski area permits on National Forests be based on fair market value. When GRFS was developed, it was designed to return a fair value to the United States and the permit holder. The Forest Service has been working with the ski industry over the past two years to come up with a more simplified approach to developing a fee basis. We currently have a study underway that will recommend options for how we develop a system that will ensure fair market value for all our ski areas.

248. Question. Has the Forest Service ever sold its lands to a ski area?

Answer. The Forest Service has very limited authority to sell land. This includes the Small Tracts Act which authorizes sales of NFS lands valued at less than \$150,000 and less than 40 acres for mineral fractions and 10 acres for encroachments and road rights-of-way. Sales under this authority must meet one of three criteria to be eligible, including encroachments resulting from bad surveys or erroneous legal descriptions, mineral fractions, or road rights-of-way. Small sales of this type to ski areas may have occurred, but such sales would be very limited in scope. Other than minor Small Tracts Act transactions that may have occurred, the Forest Service has not sold lands to a ski area organization.

249. Question. Has the Forest Service ever been approached by ski area manager/owners with a request to purchase the national forest system lands from the Forest Service? If so, what is the Forest Service's policy on responding to such a request for purchase?

Answer. Occasionally ski areas have approached the Forest Service wanting to acquire land located at the base of the ski development usually for lodging or ski related business operations such as retail ski shops. Where appropriate, the Forest Service has completed land exchanges with ski area operators. Landownership adjustment can be a tool to provide land that may be better suited for development. If an exchange is found to be in the public interest, state and local needs are considered in a land management planning analysis to determine whether an adjustment in the current landownership pattern is appropriate. If the analysis indicates the public interest will be served, the existing National Forest System lands can then be exchanged for an equal value of nonfederal lands that will help consolidate the National Forest.

QUESTIONS SUBMITTED BY SENATOR MARK HATFIELD

THE PRESIDENT'S FOREST PLAN

FY 1996 BUDGET REQUEST

As I look at the chart provided by the subcommittee, entitled "Forest Plan Implementation," dated April 21, 1995, I am struck by the overwhelming familiarity of this situation. To quote Yogi Berra, "It's deja vu all over again."

I sat here last year and questioned why your agency only provided 56% of the funding needed to implement in the President's Forest Plan in its FY 1995 Budget Request. A year later, I'm looking at

the funding you have provided in your FY 1996 Budget Request, as compared with your own identified needs for implementation of the Forest Plan, and my math tells me that you have provided even less this year than last year. In fact, you have only provided 53% of the identified funding needs for forest plan implementation for FY 1996 as compared with 56% in FY 1995.

250. Question. I'll ask this question again. How do you intend to implement Option 9 without the necessary funds?

Answer. We are on schedule to meet the full timber sale program level by FY 1997, thereby largely meeting the intent of the President's Plan. It is an aggressive approach given the total Forest Service budget and needs elsewhere in the nation.

251. Question. "High priority" items in the Forest Plan implementation budget include Community Assistance and Ecosystem Restoration, yet these items are only funded at 43% of identified needs in your FY 1996 Budget Request. Last year, my records show that you only requested half of the funding needed to implement these programs. Please describe the rationale for the growing shortfall for these "high priority" programs in your budget request. Is this shortfall reflective of your commitment to rural communities in Western Oregon?

Answer. Based on the "Interagency Memorandum of Understanding for Economic Adjustment and Community Assistance", at the FY 1996 level of funding, the economic side of The President's Plan is fully funded. This demonstrates the continuing commitment and high priority the Forest Service has given to Community Assistance and Ecosystem Restoration in the Pacific Northwest.

252. Question. I also notice that only 40% of the funds necessary to implement the Adaptive Management Areas under Option 9 have been requested. You have touted these areas as prime examples of how ecosystem management at a community based level should be implemented. Could you explain the rationale for the shortfall in requested funding for this program? What is the status of the implementation of each of the AMAs?

Answer. The AMAs are in varying degrees of implementation. We will prioritize the work and fund the most important activities within the tight budget restraints. This funding will allow us to continue with Plan implementation and gain learning opportunities provided by developing and demonstrating new ways to integrate ecological and economic objectives.

253. Question. I understand that the "Partnership One" timber sale, the first to come out of the cooperative AMA process in the Applegate watershed, was appealed by environmental groups and sent back to the drawing board. What is the status of the Partnership One sale? Are any other sales being prepared in the Applegate AMA? Are any sales being prepared in the other AMA's?

Answer. The decision notice for the Partnership timber sale was signed on May 30, 1995 and the appeal period ends July 17, 1995. Three new sales are being prepared this fiscal year for offer in FY 1996 within the Applegate AMA. FY 1995 work is as follows: Beaver Palmer is through Gate 3; Squaw Creek and Little Applegate are through Gate 2.

The following AMA'S have planned or sold sales in FY 1995: Central Cascades AMA - 3 sold, 4 planned; Cispus AMA - 4 planned; Gooseneck AMA - 6 sold, 4 planned; Hayfork AMA - 2 planned; Little River AMA - 2 sold, 2 planned; Northern Coast Range AMA - 1 planned; and Olympic AMA - 6 planned.

254. Question. What FY 1995 and 1996 activities will go unfunded because of the \$7.4 million shortfall in research programs in your FY 1996 budget request?

Answer. The following research to support implementing Ecosystem Management on Public Lands in the Pacific Northwest will not be done.

- Initiate studies of ecological and management practices and social acceptability for young stands (plantations) in reserves.

- Research for understanding, evaluating, and projecting the interrelationships of silvicultural and genetic manipulation on the quantity and quality of wood production.

- Long-term research at the demographic, ecosystem, and landscape scales to assess viability of populations and integrity of communities for wildlife associated with late seral stages.

- Collaborative research with USGS to develop and couple sediment transport with watershed hydrology models.

- Research in HJ Andrews on forest-stream interactions and landscape research modeling approaches to support and evaluate ecosystem design at watershed and subregional (province) scales.

- Basic research on long-term ecosystem productivity to understand changes (in soil development, weathering, organic matter fluxes, etc.) in response to disturbances and plant and animal (including micro-organisms) composition, with linkages to other long-term studies and studies that support adaptive management. To include initial development of a framework to provide an understanding of "sustainability" from the biological, economic, and social perspectives.

- Reframe traditional economics and management research to address the shift in management emphasis (conditions rather than outputs) and scale (landscape to region) of studies.

- Develop general disturbance theory for humid mountain landscapes that accounts for the temporal and spatial variability of channel morphology and associated fish habitats; continue research on biology and habitat requirements of anadromous fishes and how changes in habitat affect their various life stages; conduct research on snow interception in transient snow zone to develop model of snow accumulation that reflects changes, especially increased runoff, from vegetation altered by timber harvest or wildfire, impacting stream channels and fish habitat.

Research to anticipate effects of climate and disturbance on ecosystem characteristics and social values, and support development of management strategies that utilize fire and adaptive management to address long-term concerns of viability and sustainability of ecosystems during environmental change.

Determine natural and human factors limiting the distribution and abundance of anadromous salmonids within watersheds, and assess temporal and spatial scales in PNW over which these factors operate.

Accelerate research on reframing traditional economics to different scales and management emphasis.

Revitalize modeling capabilities for production forestry research of pure and mixed second-growth Douglas-fir stands. This effort will initiate a regional framework that builds upon existing partnerships with the University of Washington Stand Management Cooperative and numerous cooperatives at Oregon State University.

Expand research on long-term productivity of multiple resources and values in northwest forests under a framework of "sustainability" from the biological, economic, and social perspectives, to increase understanding of forest operations and their effects on ecosystem processes and the link to maintaining long-term productivity.

Research on special forest products management regimes to supplement timber production and diversify programs, requiring biological information on species of interest, determining sustainable harvest levels, developing models of resource availability, production, and products industry potential. Surveys of species types, abundance, and distribution will be supplemented with experiments to determine ecological factors that determine harvest tolerances and guidelines for management. This requires cooperation between PNW, university researchers, National Forest Systems, the Bureau of Land Management, States, and other agencies.

Accelerate research on the development of both long-term and short-term management strategies for forest "reserves" under the President's plan for the types and degrees of various uses compatible with reserve objectives and their long-term health and sustainability in partnership with the Olympic Natural Resources Center.

Accelerate research on the relationship between natural and human-imposed disturbance regimes of terrestrial ecosystems and temporal conditions of aquatic ecosystems within selected ecoregions of the Pacific Northwest; identify life history attributes of selected fish species and populations within each ecoregion and their temporal relationship to ecosystem attributes; develop management scenarios and models for managing terrestrial and aquatic ecosystems in different ecoregions.

Accelerate research on technology of a prototype comprehensive decision-support system for adaptive ecosystem management in

the Pacific Northwest that systematically interfaces decisionmakers with appropriate data, knowledge, and legal and regulatory constraints

Accelerate research on the development of specifications, acquisition methodology, and quality standards for ecosystem management monitoring data at all spatial scales, together with how these will evolve over time in response to how the data is used/not used.

Research on alternative stand level management techniques that evaluate tradeoffs between timber production and habitat capability and support implementation of Forest Service ecosystem management policy.

255. Question. Relatively speaking, of the programs identified as necessary to implement the President's Plan, "Watershed Assessment" takes one of the smallest hits in terms of your actual budget request versus funding needs. What is the status of the watershed assessment process? On how many watersheds has the Forest Service actually completed assessments? Are you behind schedule, ahead of schedule or right on schedule with your watershed assessments? If you are behind schedule, please describe why.

Answer. We can't be sure how many analyses we will ultimately need, but we estimate that by the end of 1995, we will have completed about 20 percent of our long-term program need. Region 5 completed 4 analyses in 1994, and projects completion of another 6 in 1995. Region 6 completed 24 in 1994, and projects completion of another 79 in 1995. Our original assessment indicated it would take us a minimum of 10-20 years to complete our first iterations of analyses on all the watersheds where analysis would be needed. We now estimate it will take about eight years. We are ahead of the schedule we predicted earlier primarily because our evaluation teams have gained efficiency through experience.

ECONOMIC ADJUSTMENT AND COMMUNITY ASSISTANCE PROGRAMS

In 1993, the President convened the Northwest Forest Summit in Portland, Oregon. The recommendation made following this multi-agency conference included \$1.2 billion in economic adjustment and community assistance programs. Part of that commitment includes the Forest Service providing appropriations and reprogrammed funds in the amount of \$102 million over the course of fiscal years 1994, 1995, and 1996.

256. Question. Of this commitment made by the Forest Service in the Interagency Memorandum of Understanding (MOU), how much has been provided by the agency during FY 94 and FY 95?

Answer. In FY 1994, the agency provided \$10 million in the Pacific Northwest Community Assistance expanded budget line item. In FY 1995, the agency provided \$13.1 million in the PNW Community Assistance expanded budget line item to implement the President's Plan in the Pacific Northwest.

257. Question. Are these funds in addition to base funding, or are you repackaging existing funding that would have found its way to the Northwest anyway?

Answer. These funds are in addition to base funds from the Old Growth Diversification Projects, Economic Recovery and Rural Development funds.

258. Question. How much is the Forest Service requesting in its FY 96 budget for these programs? In your response, please break out each individual program as identified by the President and contained in the interagency MOU.

Answer. The FY 1996 President's budget proposes \$17 million to fully meet the interagency MOU. These funds consist of \$4 million in Stewardship Incentive Program funds and \$13 million in the PNW Assistance Program funds.

AGENCY STRUCTURE AND TIMBER SALE PREPARATION

In reviewing your agency's implementation strategy for the President's Forest Plan it occurs to me that you have created quite a complex bureaucracy. You now have:

An Office of Forestry and Economic Development which attempts to coordinate all federal agencies' activities in implementing Option 9;

A Regional Ecosystem Office which must approve most, if not all, project-level decisions;

The Regional Interagency Executive Committee, which sets policy for the region;

The Regional Interagency Executive Advisory Committee which advises the Regional Interagency Executive Committee on its policies;

Twelve Provincial Interagency Executive Committees which implements the policies developed and approved by the Regional Executive and Advisory Committees;

Twelve Provincial Interagency Executive Advisory Committees which consult with the Provincial Interagency Executive Committees;

And finally, Forest Supervisors who are given management instructions.

None of these committees existed prior to the emergence of Option 9. It seems to be a very complex and time consuming process. In light of the criticism you have been receiving from all interests about the untimely implementation of the President's Forest Plan, I have several questions about this structure.

259. Question. Is my analysis of the new bureaucratic structure correct? If not, please clarify.

Answer. You have correctly identified the series of coordinating committees that have been put in place. The Office of Forestry and Economic Development (OFED) is responsible for full Plan implementation, not just the Federal forest component. The Regional Ecosystem Office (REO) reviews specific projects as called for in the record of decision. The total number of project-level decisions reviewed to date by REO is less than 50. As a staff office to the regional executives, REO also provides for prompt interagency resolution of issues related to Plan implementation. These committees allow local, State, Tribal, and Federal agencies to work together with the public in managing the region's natural

resources. One of the primary reasons for implementation of this approach was to bring all involved parties to the table. This strategy was partly responsible for the lifting of Judge Dwyer's injunction which had brought the region's resource management activities to a virtual standstill between 1991 and 1994.

Since the Plan was released, the agencies have been able to withstand all legal challenges. This effective, coordinated effort between the agencies has allowed us to move forward on timber sales, watershed analysis, and restoration projects.

Some of the accomplishments of these committees, especially the Regional Ecosystem Office (REO) include:

- the development of the Federal Watershed Analysis guide, which sets the standard for watershed analysis;
- providing interagency review of late-successional reserve (LSR) projects and assessments. An example of this is the Mossback Salvage sale within a late successional reserve on which REO conducted a site review and had the Forest move farther out of the riparian reserve on one unit and drop another portion.
- defining a set of actions which could occur within LSR's without the need for project review by REO.
- aggressively monitoring plan implementation, which was one of the keys in getting Judge Dwyer to lift the injunction in the Seattle Audubon Society case on the spotted owl.
- developing an interagency process for for coordinating Jobs-in-the Woods restoration projects;
- coordinating an interagency agreement to streamline Section 7 consultations;
- development of guidelines for Adaptive Management Areas;
- working with the research and monitoring group to interpret, apply, and monitor the results of the standards and guidelines. For example all ongoing research projects potentially inconsistent with the standards and guidelines have been reviewed, cleared, modified by REO.
- providing liaison and support for the IAC;
- reviewing AMA plans as they are developed; and
- providing GIS support to facilitate information sharing across agencies.

260. Question. What is the status of the implementation of the Aquatic Conservation Strategy/watershed assessments in the President's Plan?

Answer. The Aquatic Conservation Strategy is an integral part of the President's Plan and, as such, is being implemented fully within existing budget levels.

261. Question. What is the current process for preparing timber sales? How much timber has actually been advertised, sold and awarded in the geographic area affected by Option 9 since Judge Dwyer lifted the injunction last spring?

Answer. Under the President's Plan, watershed analysis is the only major part of the timber sale process that is additional to

the normal sale preparation process for most timber sales on lands suitable for timber production. Watershed analysis is needed where the sale might affect a key watershed, riparian reserves, or roadless areas. Under the current process, watershed analysis should be completed in about 3 months on average. Also, special surveys for rare and endemic species are required in some areas prior to ground-disturbing activities that will be implemented in 1997 or 1999 or later (depending on the species). On lands classified as a late-successional reserve (LSR), an LSR assessment and review by the Regional Ecosystem Office will normally be required before a timber sale can be offered.

In fiscal year 1994, 233 MMBF of timber was offered from national forest lands within the range of the northern spotted owl (under the President's Plan). In FY 1995, an additional 39 MMBF had been offered through March 1, 1995; and the expected total offer for FY 1995 is 466 MMBF within the owl range. The BLM will offer an additional 120 MMBF.

262. Question. How long does it take to conduct the environmental assessments, advertise, sell and award a timber sale within the new bureaucratic structure of the President's Plan?

Answer. Under usual conditions, it would take an average of 19 months under the President's Plan to prepare a timber sale if all the activities needed are done in sequence as compared to 36-48 months before the Plan. If consultation can be completed simultaneously with project development, as per the March 8, 1995, interagency agreement, the timeline could be reduced by an average of 2 months. We are looking at other ways to further streamline the process and overlap tasks where possible. The simplest sales (those not needing watershed analysis, species surveys, lengthy environmental analysis, or complicated sale layout) could be completed within as short a period as 8 months.

263. Question. What is the unit cost of preparing a timber sale today as opposed to pre-Option 9? What factors go into your calculation of the cost of a sale unit?

Answer. Implementation of the President's Forest Plan began during FY 1994. FY 1993 unit costs for Region 6 were \$69.37/mbf. In 1994 they rose to \$102.99/mbf. The projected costs for the timber sale program in Region 6 for FY 1995 are about \$92.00/mbf. Other costs are associated with building a pipeline for future years when the Region will meet the full sale quantity identified in the President's Plan. The primary reasons for the increased costs include:

- Additional green tree retention requirements requiring an increase in the area needed to be covered to put a sale up;
- Complete elimination of any pipeline with the signature of the Record of Decision for the plan; and
- Requirements to survey and manage for over 400 species have been added with implementation of the ROD.
- The costs reflected here cover the entire Region and not just the 13 Forests covered by the President's Plan. For the 6 remaining Forests lawsuits and appeals continue to be a problem. On the average every sale is now reworked four times

before it is sold. This has a tremendous effect on unit costs.

264. Question. What is the capability of the Forest Service to produce a stable timber sale program of 1.1 billion board feet as outlined in the President's Plan?

Answer. The probable sale quantity (PSQ) estimated at the time the ROD for the President's Plan was issued was 958 MMBF. The PSQ was broken down as follows:

Forest Service	
- Region 5 (California)	224 MMBF
- Region 6 (Oregon & Washington)	<u>533 MMBF</u>
- Total	757 MMBF
BLM	<u>201 MMBF</u>
President's Plan Total	958 MMBF

Subsequent to the release of the ROD for the President's Plan, Region 5 issued new draft forest land management plans, with revised estimates of PSQ under President's Plan direction. Their new estimate of PSQ is 161 MMBF. This is a reduction of 63 MMBF from the estimate used in the ROD. This reduces the Forest Service portion of the PSQ under the President's Plan from 757 MMBF to 694 MMBF. Analysis thus far indicates a reduction in PSQ may also occur in Region 6 due to greater than anticipated impacts of riparian buffer zones and other standards and guidelines.

The PSQ is an average for the first decade of implementation. It was never expected that the decadal average figure would be achieved in the early years of the decade. In April 1994, the Chief testified before Congress regarding our projected implementation schedule for the timber sale program under the President's Plan. This schedule showed an estimated accomplishment of about 60 percent in FY 1995, 80 percent in FY 1996, and 100 percent in FY 1997. This is still our expectation. In FY 1995, we expect to accomplish about 466 MMBF in new sales in the owl range, which would be 67 percent of the latest PSQ estimate of 694 MMBF (or 62 percent of the original PSQ).

Since PSQ (or ASQ (allowable sale quantity)) are decadal limits, Forests would be allowed to have higher sale levels in later years of the decade if there were shortfalls in the earlier years, and our goal is to achieve the full PSQ over the decade. However, at this time we have only completed one year of implementation and cannot predict whether sale levels higher than the average annual PSQ can actually be achieved in the latter years of the decade.

265. Question. The Committee is concerned that the Forest Service's work force has changed both in size and in character as a result of your downsizing program. Please give a detailed description for the Committee of the number of people who have been released, as well as a description of their job titles. In which disciplines did the most job reductions occur? Have certain disciplines been reduced disproportionately to others and, if so, why?

Answer. The Forest Service began its downsizing efforts in November 1992. Before buyouts were authorized by Congress in March 1994, efforts were limited to an employment freeze and a Servicewide Employee Placement System (EPS) to place employees whose jobs were no longer needed in their current locations. Program shifts, such as the decline of the timber sale program by 50 percent from 1991 to 1995 and road construction funds by 30 percent during the same period, contributed to the Forest Service downsizing needs and hit some occupational areas harder than others. About 1,200 employees were placed using EPS, but the agency still had over 700 people on the EPS list when buyouts were authorized. The vast majority of those on the EPS list were Foresters, Forestry Technicians, Civil Engineers, and Engineering Technicians.

During the three periods in which the Forest Service offered buyouts, buyouts went disproportionately to employees whose jobs had been declared surplus, employees located in the Washington Office and at Regional Offices, administrative employees, and employees at grades 14 and above. The last two groups were targeted due to the President's Government-wide direction to reduce employment in these groups and the Washington Office/Regional Office groups were targeted due to language in Agency FY 1995 appropriations.

The following chart summarizes changes in the Forest Service permanent work force since November 1993 and incorporates changes due to buyouts, as well as changes of employees who quit or retired outside of buyout or who shifted occupations. Some significant occupational shifts occurred outside of buyouts due to a variety of factors such as the older average age structure of the employees in some occupations than others. For example, engineering technicians averaged 45.6 years of age in 1993--three years older than the Forest Service-wide average age so that series experienced a higher than average rate of retirement.

Work Force Changes - PFTs
Decrease 12.7% 10/15/93 - 3/31/95
From 34,510 to 30,132

Series	Title	Series Total 11/93	Total Buyouts	% of Series in Buyout	Series Total 4/95	% Reductio in Series
018	Safety & Occ Health	25	2	8.0	20	-20.0
023	Recreation Plnr	134	1	0.7	128	- 4.5
110	Economist	59	7	11.8	49	-16.9
142	Manpower Development	58	11	18.9	43	-25.8
186	Social Serv. Asst.	283	4	1.4	287	+ 1.4
193	Archeologist	306	1	0.3	311	+ 1.6
201	Personnel Specialist *	454	61	13.4	390	-14.1
203	Personnel Assistant	499	57	11.4	411	-17.6
260	EEO Specialist	72	8	11.1	63	-12.5
301	Misc. Admin	160	17	10.6	162	+1.2
303	Misc. Clerk & Asst	660	72	10.9	592	-10.3
304	Info Receptionist	269	15	5.5	242	-10.
305	Mail & File	120	21	17.5	97	-19.1
318	Secretary	354	43	12.1	291	-17.7
322	Clerk Typist	210	18	8.5	84	-60.0
326	Office Automation	405	21	5.1	414	+2.2
332	Computer Operation	72	5	6.9	64	-11.1
334	Computer Specialist	705	58	8.2	645	-8.5
335	Computer Assistant	529	36	6.8	469	-11.3
340	Program Manager**	40	4	10.0	219	+448.0
341	Admin Officer	345	54	15.6	280	-18.8
342	Support Serv. Admin	688	102	14.8	584	-15.1
343	Mgmt & Prog Analysis	204	29	14.2	176	-13.7

* = 201, 212, 221, 223, 230, 233 and 235 are the personnel specialist series.

Forest Service Work Force Changes (cont.)

Series	Title	Series Total 11/93	Total Buyouts	% of Series in Buyout	Series Total 4/95	% Reductio in Series
344	Mgmt Clk & Asst	42	11	26.1	26	-38.0
350	Equip Operator	30	6	20.0	21	-30.0
391	Telecommunications	152	19	12.5	139	-8.5
401	Gen Biological Sci	820	55	6.7	839	+2.3
404	Biol Science Tech	392	28	7.1	354	-9.6
408	Ecology	168	1	0.5	182	+ 8.3
414	Entomology	142	7	4.9	130	-8.4
430	Botany	120	0	--	119	- 0.8
434	Plant Pathology	92	7	7.6	85	-7.6
454	Range Mgmt	455	30	6.5	403	-11.4
455	Range Tech	123	14	11.3	105	-14.6
460	Forester **	5071	481	9.4	4127	-18.6 (-15.
462	Forestry Tech ***	7602	573	7.5	6298	-17.1 (-12.
470	Soil Science	257	6	2.3	225	-12.4
482	Fishery Biology	338	7	2.0	372	+10.0
486	Wildlife Biology	907	7	0.8	846	-6.7
501	Financial Admin	172	31	18.0	154	-10.4
503	Financial Clk & Asst	145	18	12.4	114	-21.3
510	Accounting	144	12	8.3	139	-3.4
525	Accounting Tech	358	48	13.4	301	-15.9
540	Voucher Examining	69	13	18.8	49	-28.9
544	Payroll	89	6	6.7	69	-22.4
560	Budget Analysis	159	20	12.5	143	-10.0
561	Budget Clk & Asst	56	10	17.8	36	-35.7
801	General Engineering	94	6	6.3	82	-12.7
802	Engineering Tech	1544	260	16.8	1134	-26.5
807	Landscape Arch	277	15	5.4	259	-6.4
809	Construction Control	33	13	39.3	20	-39.3
810	Civil Engineering	961	101	10.5	808	-15.9
817	Surveying Tech	114	16	14.0	89	-21.9
856	Electronics Tech	121	15	12.3	103	-14.8
963	Legal Instr Exam	83	15	18.0	68	-18.0
1001	Gen Arts & Info	359	23	6.4	342	-4.7
1035	Public Affairs	301	26	8.6	273	-9.3
1082	Writing & Editing	57	8	14.0	45	-21.0
1087	Editorial Asst	46	6	13.0	32	-30.4
1101	Gen Business & Industry	714	78	10.9	581	-18.6
1102	Contracting	312	47	15.0	254	-18.5
1105	Purchasing	405	54	13.3	369	-8.8
1106	Proc Clk & Tech	171	13	7.6	130	-23.9
1170	Realty	149	14	9.3	138	-7.3
1315	Hydrology	284	5	1.7	274	-3.5
1350	Geology	154	8	5.1	137	-11.0
1370	Cartography	75	6	8	71	-5.3
1371	Cartographic Tech	160	27	16.8	127	-20.6
1373	Land Surveying	166	8	4.8	157	-5.4
1380	Forest Prod. Tech	62	12	19.3	45	-27.4
1531	Statistical Asst	18	6	33.3	11	-38.8
1640	Facility Mgmt	21	10	47.6	16	-23.8
1654	Printing Mgmt	9	5	55.5	9	--
1710	Education & Voc Trng	119	2	1.7	117	-1.7
1802	Law Enforcement ***	11	2	18.2	389	+3436.0
1811	Criminal Investigating	179	7	3.9	164	-8.3
2005	Supply Clk & Tech	106	8	5.6	91	-14.1
2150	Transportation Ops	51	10	19.6	43	-15.6
3502	Laboring	83	13	15.6	53	-36.1
4749	Maintenance Mech	221	35	15.8	181	-18.0
5703	Motor Vehicle Op	44	8	18.1	36	-18.0
5705	Tractor Operating	42	11	26.1	31	-26.1
5716	Eng Equip Operating	410	86	20.9	316	-22.9
5823	Automotive Mech	117	25	21.3	91	-22.2
6907	Materials Handler	56	10	17.8	43	-23.2

** - Estimated shift of 180 line managers from 460 series to 340 series due to a change in position classification. Numbers in parentheses estimate Foresters reduced after allowing for this shift.

***- Estimated shift of 375 from 462 series to 1802 series due to a change in position classification. Numbers in parentheses estimate Forestry techs reduced after allowing for this shift

266. Question. Our records show that your agency, in the Pacific Northwest, has spent more money annually since 1991 producing essentially no timber sales, than it did during the entire decade of the 1980's when sales levels were much higher. Could you please provide the Committee with a detailed accounting of what, exactly, your agency spent this money on over the past four years?

Answer. The following table displays the expenditures of timber appropriations (on an obligations basis excluding reforestation and timber stand improvement) as reported through the Timber Sale Program Information Reporting System (TSPIRS) for fiscal years (FY) 1991-94:

Expense Category	Thousands of Dollars 1/:			
	FY 1991	FY 1992	FY 1993	FY 1994
Harvest Administration	\$ 25,320	\$ 25,985	\$ 25,334	\$ 18,309
Sale Preparation				
Field & Contract Work	41,138	36,585	33,994	14,744
NEPA Analysis & Doc. 2/	3,128	12,040	10,673	4,967
Other Resource Support	24,734	34,558	29,801	15,625
Appeals & Litigation 2/	<u>1,306</u>	<u>1,281</u>	<u>1,095</u>	<u>2,510</u>
Total Sale Preparation	70,306	84,464	75,563	37,846
Road Design & Const 3/	42,773	37,920	27,970	11,319
Timber Planning	3,346	4,381	2,863	3,130
Silvicultural Examination	11,532	18,589	16,879	7,995
Transportation Planning	1,575	1,561	2,373	2,330

1/ Amounts are not adjusted for inflation

2/ FY 1991 was the first year costs for these activities were tracked separately--some of the actual expenses for FY 1991 may be included in the Field & Contract Work and Other Resource Support categories

3/ Does not include purchaser credit

ECOSYSTEM MANAGEMENT

Throughout your reinvention documents and the President's Forest Plan, you state that one of the first priorities of the Forest Service and of the national forest system is to "protect the sustainability of ecosystems (Reinvention Exec. Summ. p.1)." I would agree that this is a laudable objective. In fact, I have introduced authorizing legislation, which is now before the Senate Committee Energy and Natural Resources, to define ecosystem management, identify barriers to and opportunities for the implementation of ecosystem management, and consider how ecosystem management efforts, which often cross land ownership boundaries, should be funded.

267. Question. Is the goal of "protecting sustainable ecosystems" a specific provision in any of the Forest Service's organic statutes?

Answer. The idea of sustainability is the most basic concept in management of a national forest. In 1891 the Creative Act (26 Stat. 1095) gave the President the authority to set aside forest reserves, later renamed national forests, in response to a public belief that the country was headed towards a shortage of timber.

In 1897 The Organic Administration Act was passed. It states that forest reserves were established "to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber..." (16 USC 475). Thus, the first idea of sustainability expressed in a statute.

With passage of the Multiple Use-Sustained Yield Act of 1960 (16 USC 531), the sustainability concept was further brought forth as sustained yield was defined as, "the achievement and maintenance in perpetuity of a high level annual or periodic output of the various renewable resources of the national forests without impairment of the productivity of the land."

In 1976 NFMA (16 USC 1600) re-enforced the concept of sustained yield as it states in part "In developing, maintaining, and revising plans of the National Forest System...the secretary shall assure that such plans...provide for multiple use and sustained yield of the products and services obtained therefrom in accordance with the Multiple Use-Sustained Yield Act of 1960, and in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness."

An ecological approach for management of National Forest System lands evolves from our statutory authority as set forth in statutes such as the Forest Service Organic Act, the Multiple-Use Sustained-Yield Act, the Endangered Species Act, and the Federal Land Policy and Management Act. These statutes invest in the Department broad discretion to rely upon our expertise to manage the lands under our administrative authority in a manner deemed to best meet the purposes delineated in those Acts. One such purpose is to provide for the long-term sustainability of all of the forests' many renewable natural resources, including the species that inhabit them, as earlier described.

Statutes such as the Forest and Rangeland Renewable Resources Planning Act, the National Forest Management Act, and the Federal Land Policy and Management Act, which outline various procedures to follow in federal public land planning, also authorize the employment of principles for an ecological approach to management. For example, they call for planning to be interdisciplinary, coordinated among agencies, and based on the best available science. The National Forest Management Act explicitly provides that diversity of plant and animal species be considered in planning.

The Endangered Species sets forth its purpose as to "provide a means whereby the ecosystems upon which endangered species and threatened species may be conserved..." Moreover, the Act provides for the "furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species..."

Finally, NEPA, while not imposing substantive duties on the agencies, recognizes "the interrelations of all components of the natural environment," "the critical importance of restoring and maintaining environmental quality," and "the responsibilities of each generation as trustee of the environment for succeeding generations."

268. Question. To the best of your ability, please define ecosystem management. Is this definition one that is commonly shared by land managers within your agency? Between your agency and other federal agencies? Between your agency and state land management agencies? Or between your agency and private landowners?

Answer. An ecosystem management approach to management is implied in NFMA and can be defined as a concept of natural resources management wherein National Forest activities are considered within the context of economic, ecological, and social interactions within a defined area or region over both short and long term. Its goal is to provide for sustainable ecosystems. It is a way of doing business, a philosophy. There is no end point at which time it could be said that the concept has been fully implemented. It is an ongoing ever-evolving process resulting in overall better decisions. While specific wording of a definition might have variations, the concept is well accepted throughout the scientific community, including other Federal and State agencies. It is also an accepted concept among a variety of groups and organizations representing private landowners.

269. Question. What is the Forest Service doing to bridge land ownership gaps as it attempts to manage its lands as a component of larger watersheds which often cross jurisdictional boundaries?

Answer. Information collected and examined does include data about private lands. It would not be a sound approach to ignore information representing some of the lands and resources within an assessment area. Information representing the entire natural resource base is essential to understanding available data about the current status and general trends of those resources. However, the Forest Service has been very clear that information provided by assessments is not intended in any fashion to direct, limit, regulate, or control any aspect of land or resource management on private lands.

The Agency has been equally clear to make distinctions between ecosystem assessments and resource decisionmaking. An assessment is not a decisionmaking effort and does not result in a resource decision. It is a process by which information is gathered and synthesized to enhance an understanding of ecosystems. Assessments do not trigger NEPA analysis nor do the results of assessments substitute for NEPA analysis and disclosure documents. Forest plan revisions must follow both the National Forest Management Act (NFMA) requirements and NEPA requirements for analysis and disclosure of environmental effects.

270. Question. How is your agency funding its ecosystem management efforts? Are these funding efforts closely coordinated with other agencies and entities performing identical or similar work -- such as other federal agencies, state governments, local governments and private landowners? In your opinion, is there a more efficient way to fund these efforts?

Answer. Ecosystem management efforts within the Forest Service are to foster protection and restoration of ecosystems and provide multiple benefit for people within the capabilities of ecosystems. Those activities which are above the project level (i.e. integrated activity, often focusing on large geographic

areas) are funded from the Ecosystem Management Planning, Inventory, and Monitoring line item. Other closely related programs, such as Timber Management, Recreation Use, Fish & Wildlife, Soil, Water & Air, Range Management, and Minerals & Geology, in which activities are conducted at the project level, are also associated with implementation of ecosystem management. These projects blend the needs of people and environmental values to develop and maintain diverse, healthy, productive and sustainable ecosystems.

Close coordination with other agencies, entities, and private landowners on ecosystem management efforts (e.g., projects, information gathering, analysis, planning, monitoring and policy making) is evident at all scales and levels of the organization. Several current examples include the President's Plan for the Northwest, the Columbia River Basin Projects, the Southern Appalachian Assessment and the Sierra Study.

As the agency experiences the change from the more traditional functional funding to an integrated approach, there may be areas of uncertainty, and modification based on new information and change. At this time we see no more efficient way to fund these efforts.

271. Question. Is commodity production a legitimate output of ecosystem management? If it is, why? If not, why not?

Answer. Taking an ecosystem management approach to activities on National Forest System land is not a question of whether to provide for commodity production or not. Ecosystem management itself does not provide outputs. It is an approach to minimize unintended and unanticipated effects of planned management activities on the physical, biological, sociological, and economic environments. Therefore, commodity production is not an output of ecosystem management, but is an acceptable activity.

AGENCY CO-LOCATION

I have been working for the past several years in Portland to co-locate the offices of the Forest Service, Bureau of Land Management and Fish and Wildlife Service in one building to help further streamline your agencies' decision making processes.

272. Question. What is the status of the co-location of these agencies in Portland?

Answer. The Forest Service has reviewed co-location possibilities with the other agencies in Portland and have agreed to move some of the fire-related organizations into the Portland office. We are continuing to look at other functions and areas for co-location opportunities.

273. Question. I understand your agency has been working with the Bureau of Land Management in an effort to co-locate facilities in Burns, Oregon. What is the status of this effort?

Answer. The Regional Office in Portland is developing a proposal to request authority to lease/purchase an office in Burns, Oregon.

274. Question. What other co-location efforts are you pursuing in the Pacific Northwest? Across the nation?

Answer. We have received authority from General Services Administration (GSA) to lease space for agencies within the U.S. Department of Interior in Lakeview, Oregon.

We have requested authority from GSA to lease space for Interior agencies in Durango, Colorado and Buffalo, Wyoming. A request is also being prepared to lease space in Walden, Colorado.

Both USDI and USDA have requested that GSA provide blanket authority to lease space for each Agency when collocation is feasible and practical.

EASTSIDE FORESTS

EASTSIDE EIS

Your agency is leading an effort to develop an "Eastside Ecosystem Environmental Impact Statement." This process stemmed out of a request made by Speaker Foley and myself back in 1992 for a comprehensive assessment of the health of eastside watersheds.

275. Question. Please describe for the committee, the status of the current Eastside EIS. When is it due to be completed?

Answer. Key Points:

There are 5 Products associated with the Columbia Basin Ecosystem Management Project

1. Scientific Framework for Ecosystem Management
2. Scientific Assessment for Ecosystem Management
3. Eastside EIS (updates Eastern OR/WA, for BLM/FS)
4. Upper Columbia River Basin (UCRB) EIS for ID, western MT, western WY, and portions of NV and UT, for BLM/FS
5. Scientific Evaluation of EIS Alternatives

The timetables for each document are as follows:

1. Scientific Framework for Ecosystem Management
Start Date: 1/94
Draft Document: 7/95
Final Document: End of 95
2. Scientific Assessment for Ecosystem Management
Start Date: 1/94
Draft Document: 7/95 (scientific peer review)
Final Document: Late fall 95
3. Eastside EIS (updates Eastern OR/WA, for BLM/FS)
Start Date: 1/94
Draft Document: Fall 95 (updates Eastern OR/WA, for BLM/FS)
Final Document: Late Spring 96
4. Upper Columbia River Basin (UCRB) EIS for ID/MT, for BLM/FS
Start Date: 6/94
Draft Document: Fall 95
Final Document: Late Spring 96
5. Scientific Evaluation of EIS Alternatives
Start Date: 4/95
Draft Document: No draft document, information feeds into the DEISs
Final Document: Fall 95

276. Question. I notice in your FY 1996 budget request that you have not asked for funding for the Eastside Ecosystem Assessment. In FY 1994, \$4.3 million was provided for this assessment, but no money was provided in FY 1995. Considering the absence of funding in FY 1995 and in your FY 1996 budget request, how does your agency plan to pay for the Eastside EIS effort?

Answer. The Ecosystem Planning, Inventory, and Monitoring (EPIM) line item is able to cover the costs of the ecosystem assessments from the regular funding in FY 95 and FY 96, without additional funding. The EPIM dollars requested by the Agency for FY 96 and those allocated to the Regions in FY 95 include funding for the Eastside Ecosystem Assessment.

EASTSIDE COMMUNITIES

In many ways, the communities of the "eastside" are much more adversely affected by your agency's actions and policies than the communities of western Oregon. I in no way want to diminish the hardship that these federal timber-dependent communities have experienced in the last few years, but the communities of the eastside are just as dependent on federal timber as the communities of the westside. The eastern Oregon communities, however, are less able to diversify because of their lack of proximity to our region's major corridors of commerce -- Interstate 5, the Columbia River and coastal ports.

277. Question. In light of the fact that the Administration's policies have significantly altered the operation of the eastside's national forests, for example the "screens" have reduced timber harvest by at least 60%, what is the Clinton Administration planning to do to help offset the adverse impacts that the loss of industries dependent on federal lands has on the communities of the eastside?

Answer. That issue is under review at this time. No specific course of action has been decided upon. However, it should be noted that the majority of the specific federal programs, for example, the Economic Recovery and Rural Development programs, that are being delivered in Pacific Northwest Economic Adjustment Initiative Area are also available nationwide. Many of these are currently being delivered in the eastside region.

278. Question. If you do not have an eastside community assistance plan, would you be willing to work with me and my senatorial and gubernatorial colleagues from throughout the area covered by the eastside forests to fashion one?

Answer. Should the Administration determine that such a course of action is appropriate, the Forest Service would play whatever role it is called upon to play.

OPAL CREEK CLEANUP

Last October, in a hearing before the Senate Energy and Natural Resources Committee, we discussed the clean-up of the Amalgamated Mill Site at Jawbone Flats in the Opal Creek area of the Willamette National Forest. Several years ago, the Forest Service conducted some temporary, emergency clean-up activities at this site because there was a danger that contaminated mill tailings might slide into

Battle Axe Creek during a large rain event. I believe I am not mistaken when I say that this temporary clean-up measure was only meant to last one year. Nevertheless, it has been almost four years since you completed the work.

279. Question. Please describe for the committee the status of the Amalgamated Mill site clean-up.

Answer. The time-critical removal action did take place several years ago. This action was considered an interim step which could commence, and be completed, within one year. However, the longevity of the temporary action may last for many years. The tailings were moved away from Battle Ax Creek, and covered with an impervious material. The impervious material is stable for 3-4 years, and can easily be replaced when necessary. The final cleanup action will be determined upon completion of the Remedial Investigation/Feasibility Study (RI/FS).

280. Question. I understand the Forest Service is in the midst of a Remedial Investigation, Site Feasibility Study on the site. How long will it take to conduct this study? How long after that until the Amalgamated site is fully cleaned up?

Answer. At this time, the Forest Service has contracted for, and received, the final workplan for the RI/FS. The next step is to commence and complete the RI/FS, which will take one calendar year. Once the RI/FS is completed, the time required to complete the cleanup will depend on the action selected, who initiates action, and how it is funded. At this time, the Potentially Responsible Party is neither willing to initiate action, nor fund any portion of the RI/FS or cleanup.

281. Question. Considering that the clean-up actions conducted at the site in 1991 were only supposed to last one year, are you at all concerned about any danger of the mill tailings at the Amalgamated site sliding into the creek?

Answer. As mentioned in the first answer in this part (#279), the time required to complete the time-critical removal action was less than one year, but the action removed the imminent hazard of contamination of the tailings into Battle Ax Creek for many years. Monitoring of the tailings cover, and replacement when necessary, could extend the lifetime of the time-critical removal action for many years. As long as the cover retains its integrity and remains in place, the Forest Service has no concerns about the tailings sliding into the creek.

282. Question. What is your estimate of the costs to conduct this clean up effort? Did you include any money in your budget request to conduct clean up at the Amalgamated site?

Answer. Our estimate of the cost to complete the cleanup is a very rough estimate at this time. A better estimate would be available after completion of the RI/FS. At this time, our gross estimate, based on the cleanup of the nearby mill site on patented lands by the Potentially Responsible Party, is \$2-3 million. Funding will not be requested until the RI/FS is completed.

283. Question. If this committee were to direct the Forest Service to conduct the clean up at the Amalgamated Mill site, is it

possible to do so without prejudicing the final outcome of the CERCLA liability proceedings now under way?

Answer. Only if the CERCLA procedures designated in the National Contingency Plan are allowed to proceed would such direction not prejudice cost recovery. For example, requiring the Forest Service to complete action in FY 1996 might not allow sufficient time for completion of an adequate RI/FS, thus endangering cost recovery.

284. Question. If this committee did direct your agency to perform the clean-up, without prejudice to who ultimately was responsible for the final clean-up costs, how soon could the clean-up be completed?

Answer. To assure consistency with the National Contingency Plan, it is unlikely the action could begin before FY 1997. Whether the action can be completed in one field season would be determined as part of the RI/FS.

SKI AREAS AND THE PRESIDENT'S FOREST PLAN

Ski areas within the geographic area covered by Option 9 have been concerned with how they would be treated by the President's Plan since before the plan was released in the summer of 1993. I know the Pacific Northwest Ski Areas Association has discussed this matter at length with Assistant Secretary Lyons and his staff. Yet, the language in the Record of Decision for Option 9 remains unclear about how existing ski area operations and proposed ski area expansions are to be treated under the Aquatic Conservation Strategy in the President's Plan.

Considering your Administration has beat the drum these past two and one-half years about the need to diversify rural economies to include recreational and tourist-based industry, I find it curious that you are stonewalling efforts by the ski industry to clarify the intent of Option 9 as it relates to their operations.

285. Question. Does your agency plan to clarify the Option 9 ROD as it relates to the ski areas? If so, how soon can we expect these clarifications?

Answer. Yes. We are currently working with the appropriate parties to clarify issues related to ski areas and the Record of Decision. We have a timeline for resolution of this issue by July of this year. We will develop a briefing paper on this specific issue by July and will make it available to you.

TIMBERLINE LODGE

LODGE REPAIRS

286. Question. What are the capital repair needs at Timberline Lodge?

Answer. See Exhibit 1 attached to question #287.

287. Question. What are the estimated costs of these capital expenditures?

Answer. See Exhibit 1. Total need is \$8,580,000.

TIMBERLINE CAPITAL INVESTMENT NEEDS
EXHIBIT 1

A. Health and Safety

SEWAGE DRAINFIELD (LONG RANGE--FUTURE SYSTEM)	\$800,000*
CHIMNEY REPAIR	\$300,000*
FIRE PROTECTION	\$450,000*
ROOF REPAIRS	\$350,000*
ASBESTOS REMOVAL	\$500,000*
REPAIRS TO SEWAGE TREATMENT PLANT	\$ 50,000*
STRUCTURAL REPAIRS	\$100,000*
TIMBERLINE WATERLINE REPLACEMENT (5400')	\$500,000*
SILCOX SEWER LINE	\$100,000*
PARKING LOT REPAIRS/SAFETY	\$100,000*
RELOCATE ACCESS ROAD TO SERVICE AREA ABOVE LODGE (PUBLIC SAFETY ISSUE)	\$350,000
ENTRANCE COVER FOR LODGE (TUNNEL)	<u>\$300,000*</u>
Subtotal Health and Safety	\$3,900,000
*Granger-Thye (GT) Eligible	\$3,550,000

B. Other Improvements

DOMESTIC WATER SUPPLY	\$950,000*
ADA COMPLIANCE	\$700,000
LANDSCAPE RESTORATION	\$150,000*
ART WORK RESTORATION/CLEANING	\$450,000*
REPAIR/REPLACE TEXTILES/RUGS/BLINDS	\$300,000*
RESTORE/REPLACE/REPAIR FURNITURE/WOOD SURFACES	\$200,000*
WINDOW REPLACEMENT/REPAIR	\$200,000*
DAY LODGE REPAIRS/REFINISHING	\$150,000*
SILCOX WATERLINE	\$ 80,000*
ELECTRICAL UPGRADES	\$150,000*
SURFACE SALMON RIVER PARKING LOT	\$300,000
FOOT TRAIL RECONSTRUCTION (INCLUDES ADA)	\$300,000
TEMPERATURE CONTROL INSIDE TIMBERLINE LODGE	\$150,000
WOOD STORAGE AREA AT SILCOX	\$100,000
FRONT TUNNEL FOR SILCOX	\$100,000
PUBLIC AREA RESTORATION (HISTORIC LODGE)	<u>\$400,000*</u>
Subtotal Other	\$4,680,000
*GT Eligible	\$3,030,000
TOTAL	\$8,580,000
GT Eligible	\$6,580,000

*Those that are eligible GT financing

Of the projects that qualify for GT, we will be spending \$1,500,000, in the next five years from GT funds. At the end of five years, this would leave \$7,080,000 in total improvement needs, of which \$5,030,000 would be eligible for GT funding.

288. Question. Did your agency request any funding in its FY 1996 Budget Request for any of this work?

Answer. No, the regional priorities within available funding are the Discovery Center, Johnston Ridge Observatory and Newberry Crater Portal.

289. Question. Can any of this work be done with Granger-Thye funds? Please outline what expenditures can and cannot be covered by Granger-Thye funds.

Answer. Yes, of the total \$8,580,000 capital improvements, \$6,580,000 is eligible for GT funding. Approximately \$1,500,000 of GT funds will be used in the next five years. Also see Exhibit 1 attached to Question #287.

CURATOR'S POSITION

Timberline Lodge is a model of historic preservation for government facilities nationwide. Nevertheless, most, if not all, of the historic preservation work done at the lodge is conducted, not by Forest Service personnel, but by a curator whose salary is paid for by private fundraising efforts. I feel the importance of maintaining this lodge in an historically accurate way is critical, yet this service is being provided to the Forest Service and the taxpayer at no cost by private funding. As you know, private funding is as scarce as public funding these days, and I am concerned that these funds will run out, leaving the lodge without a permanent person in charge of historical interpretation.

290. Question. What, in your view, are some options for funding the curators position on a yearly basis with public dollars? Is it possible to use Granger-Thye funds to pay for the curator position?

Answer. It is important to understand that the preponderance of the historic preservation work affects architectural and structural features and materials of the Lodge. The Forest Service employs building preservation, architectural, historical, and interpretive expertise to respond to historic preservation requirements. The Curator is responsible for the preservation of artifacts including the art, furnishings, and fabrics, but not the Lodge itself.

The Mount Hood National Forest contributes \$10,000 annually toward the curator's salary with the remaining \$30,000 coming from RLK & Co. and Friends of Timberline. GT funds are used for the Curator when she is involved in preservation projects eligible for GT funding.

We believe the partnership is committed to maintaining the position as presently funded and staffed. If the current partners withdraw, the Mt. Hood National Forest will reevaluate alternatives for staffing. We view the expertise as necessary, but FS staffing is not a priority at this time.

291. Question. If not, would authorizing language be necessary to achieve this goal? Would you be willing to help in drafting such language?

Answer. Currently, the Forest Service funds one-fourth of the salary of the curator. Authorizing language is not necessary.

KNUTSEN-VANDENBERG FUNDS

As I understand it, one of the purposes of the Knutsen-Vandenberg program is to use a portion of the proceeds from a timber sale to

rehabilitate the corresponding timber sale site. I also understand that K-V funds which are derived from a particular sale cannot be used on any other sale site.

292. Question. What are the limitations on the use of K-V funds?

Answer. K-V funds may only be applied to specific timber sale areas where projects have been identified on sale area improvement plans and approved by the appropriate line officer. In addition, these projects will only be carried out using K-V funds if the timber sale has sufficient stumpage value to support this work. Reforestation work is the highest priority for the use of K-V funds. All other work is evaluated by the project interdisciplinary team and subsequently approved by the line officer. K-V funds must generally be spent within five years of sale closure; however, our policy does allow Regional approval of extensions to up to ten years on a case-by-case basis.

293. Question. Can K-V funds be used for watershed and fisheries restoration work?

Answer. K-V funds may be used for watershed and fisheries restoration work, provided it does not involve major construction (projects costing in excess of \$100,000) and meets all other requirements for the appropriate use of K-V funds.

294. Question. Does the Forest Service have the authority to use K-V funds to conduct restoration work on any site which needs it?

Answer. K-V funds may not be used to conduct restoration work which occurs outside timber sale areas, nor may these funds be applied to restoration work which has not been identified on sale area improvement plans and approved by the line officer.

295. Question. How much money from the K-V program is returned to the Treasury on an annual basis because it was not utilized as intended by the Forest Service?

Answer. A total of \$16.7 million dollars in excess K-V funds were identified at the end of FY 1994. These funds were not returned to the Treasury. They were used to help offset the effect of K-V funds advanced under emergency firefighting transfer authority under 16 USC 556d. In FY 1993, a total of \$20.6 million in excess K-V funds were identified and were similarly applied to the deficit resulting from advances under emergency firefighting transfers.

296. Question. If K-V funds could be used anywhere on a forest where restoration work was needed, would the need for additional appropriations for watershed restoration work be diminished? What are the potential savings in dollar figures?

Answer. If K-V funds could be used anywhere on a forest where restoration work was required, it would lessen the amount of appropriations needed for this work. We cannot predict the potential savings of such a policy change, as the answer will vary from Forest to Forest and depends very much on the mix of timber sales in the Forest's current program. There must be sufficient stumpage values from timber sales to enable K-V collections to support the restoration work. This is often not the case on low

value timber sales where stumpage value can limit the K-V work activities which can be funded. On these sales, we support K-V projects in accordance with funding priorities. Reforestation needs arising from harvest activities on the sale area represent the highest priority for the use of K-V funds. This policy is consistent with the intent of the 1976 NFMA revision to the K-V Act, wherein the conference report includes the proviso "... (t)he Conferees understand the primary, though not exclusive purpose of this amendment is to facilitate reforestation". On low-value sales, funding reforestation needs can exhaust the entire amount of the K-V collected from that sale area. This may leave no K-V dollars available to support other renewable resource activities and could require that we use appropriated funds to carry out this work.

297. Question. Is work conducted with K-V funds considered an economic asset to local communities? Is work put out for bid to local contractors, particularly those in timber-dependent communities?

Answer. Activities conducted with K-V funds are indeed an economic asset to local communities. K-V funds are applied to a variety of work which is well suited to local contractors, particularly in timber-dependent communities. This work includes tree planting, building nest boxes, improving riparian habitat, thinning trees and a variety of other renewable resource activities which is well suited to contracting. For example, we contract about 80% of our reforestation work. K-V reforestation treatments were completed on a total of 288,000 acres in FY 1994.

COLUMBIA RIVER GORGE

In 1986 Congress passed the Columbia River Gorge National Scenic Area Act. That legislation authorized the Forest Service to spend \$40 million dollars to acquire land necessary to fulfill the purposes of the Act.

298. Question. How much of that \$40 million has been spent to acquire land in the scenic area?

Answer. Including FY 1995, \$33,629,500 was spent to acquire land within the Columbia River Gorge National Scenic Area.

299. Question. Will the remainder of the \$40 million be sufficient to meet the identified land acquisition needs of the Gorge? If not, how much more funding will be needed?

Answer. The remainder of the \$40 million will not be sufficient to meet the acquisition needs within the Columbia River Gorge National Scenic Area. We project that approximately 7,000 acres remain to be acquired with an estimated value of \$23 million. This is \$16 million over the authorization level. The additional funds can be appropriated under the authority of the Land and Water Conservation Fund Act.

300. Question. How many acres of land have been acquired by the Forest Service so far? Approximately how many more acres will be needed to fulfill the purposes of the Act? What has been your process for identifying these lands?

Answer. Over 26,000 acres have been acquired within the Columbia River Gorge National Scenic Area. Of this acreage, 16,000 acres have been acquired through purchase and 10,000 acres have been acquired through exchange. Approximately 7,000 acres remain to be acquired. Lands to be acquired have been identified in a Land Adjustment Strategy Plan that sets the criteria for land acquisitions.

301. Question. Are all of these acres within the Special Management Areas? Do you have plans to acquire any acreage outside the SMAs? Does the Forest Service have the authority to acquire any private lands designated as Open Space or that fall within the General Management Areas?

Answer. Land acquisition within the Columbia River Gorge National Scenic Area has not been limited to Special Management Areas. However, most acquisitions have been within the Special Management Areas. There are no plans to acquire any additional lands outside of Special Management Areas. The Forest Service has the authority to acquire lands within any of the management designations.

302. Question. Does the Forest Service have the authority to acquire lands by methods other than fee-title purchase, such as exchanges? Is it possible to meet any of the remaining land acquisition needs which fall above and beyond the existing \$40 million in acquisition authority through land exchanges? Have any of the owners of lands necessary to fulfill the purposes of the Act expressed an interest in exchanges?

Answer. Yes, the Forest Service has the authority to acquire land through exchange and it is possible to meet some of the remaining acquisition needs through the exchange process. Within the Columbia River Gorge National Scenic Area, approximately 10,000 acres have been acquired through various exchanges. We are currently working with landowners who have expressed an interest in the land exchange process. The lands available for exchange within the National Scenic Area are limited. Land exchanges outside the National Scenic Area, but within the same state, can also be considered.

303. Question. Please describe the three-year land acquisition process as established by Section 8(o) of the Scenic Area Act. How many landowners have requested that their lands be acquired by the Forest Service consistent with Section 8(o) process? Please give, also, the acreage of these 8(o) lands.

Answer. Section 8(o) is a special rule in the Act that removes land from ordinances adopted for special management areas if three years have elapsed after a landowner has made a bona fide offer to sell their land to the Forest Service at fair market value and the land is not purchased. The offer is not considered bona fide if the landowner refuses consideration equal to the fair market value as appraised in accordance with the Uniform Appraisal Standards for Federal Land Acquisition. Twenty-eight landowners have made bona fide offers to sell 6,408 acres under section 8(o). Two of these landowners are participating as part of an active land exchange that is currently being processed.

304. Question. What happens to these 8(o) lands if the acquisitions are not made within the three-year period?

Answer. If the lands have not been acquired after three years, or a three-year extension has been agreed to, any ordinance adopted for the special management area does not apply and the lands are subject to the relevant scenic area land use ordinance adopted for the General Management Area. The General Management Area is less restrictive than Special Management Areas.

305. Question. The President's budget for FY 96 requests \$2 million for land acquisition in the Gorge. Will this \$2 million meet all of the land acquisition needs of the Forest Service in the coming year? If not, how much more money does your agency need to complete all acquisitions which are not ready to move forward? What portion, if any, of these funds will be used to help cover the costs of Section 8(o) proceedings?

Answer. For FY 1996, 1,207 acres with an estimated value of \$4,392,000 were initially identified for acquisition within the Columbia Gorge National Scenic Area. Approximately 75% of the funds identified were for lands offered under section 8(o). This level was reduced in the President's Budget to balance different areas of necessary land acquisition work, and is based on the priority of land acquisition among all discretionary programs. A higher funding level for this project would have required an offset by providing lower funding for other land acquisition activities which the Administration considers of higher priority.

306. Question. How does your agency plan to allocate land acquisition resources between straight acquisitions and those which have been triggered by Section 8(o) applications? Will you be able to meet the scenic protection needs of the Gorge and the land acquisition requirements in Section 8(o) under the current \$40 million ceiling for land acquisitions as authorized in the Act?

Answer. The Land Adjustment Strategy Plan will be used to determine the priorities for acquisition. Currently, we estimate approximately 7,000 acres of high priority acquisitions that remain to be acquired with a value of \$23 million. This is approximately \$15 million over the ceiling established in the Act.

307. Question. How does the presence of threatened or endangered species affect the appraisal process for SMA lands for which the 8(o) process has been triggered?

Answer. Federal laws such as the Endangered Species Act do not effect the appraised market value unless it is reflected in the prices paid for private lands. The appraiser will consider the impact of State and local land use laws that affect value. In the case of endangered species, the State of Washington has laws that limit the use of private land to protect those species and could affect land values.

308. Question. Can you use timber-for-land or timber-for-timber exchanges to supplement LWCF appropriations to facilitate your land acquisition program in the Gorge?

Answer. The Forest Service has the authority to exchange property rights and there are a number of options to facilitate the

land acquisition program in the National Scenic Area. In the case of timber, the counties must be involved since it could affect funding paid to counties based on receipts from National Forests. Timber exchanges would likely involve other National Forests since the timber base is very limited within the National Scenic Area.

FOREST SERVICE RESEARCH

309. Question. What is the status of the Young Stand Habitat Study on the H.J Andrews Experimental Forest and Olympic National Forest and the DEMO Project on the Gifford Pinchot and Umpqua National Forests?

Answer: On the H.J. Andrews Experiment Forest, pre-treatment data has been collected for the Young Stands Study and treatments have begun, resulting in 8.65 million board feet of timber sold from 805 acres. After logging is completed this summer, the study partners will begin producing a video for technology transfer. Forest land managers are quite interested in the results of this study, as most forests in the region have stands in this class (40-70 years). On the Olympic National Forest, where this study is also known as the Habitat Development Study, pre-treatment data collection will be finished this summer and timber is presently being marked for sales in FY 1995 and FY 1996.

The DEMO Study has been installed. The first-year pre-harvest measurements have been completed on most treatment blocks and second-year pre-harvest treatment measurements are underway. A study plan has been developed and is currently undergoing peer review.

310. Question. What are your plans for continuing these important projects? How will you involve industry and university partners?

Answer. Although the projects were initiated by congressional earmarks to the National Forest System Budget, the President's Budget for Forestry Research in FY 1996 provides no funds to continue the work.

Private industry, Washington Department of Natural Resources, universities (Oregon State and University of Washington), the Pacific Northwest Region, and the Pacific Northwest Research Station have been involved in development of the DEMO and Young Growth Studies. Specific scientific study design and development of scientific protocols was done jointly by university and Station scientists. Both Station and university scientists have been involved in the conduct of young growth research. However, the DEMO Research and Development is being conducted almost entirely by Oregon State University and University of Washington, while the Forest Service manages and coordinates the operational and technical sides of the DEMO project.

311. Question. What are your plans for funding the Silviculture Research Cooperative?

Answer. The FY 1996 President's Budget proposal includes \$865,000 of ongoing silviculture work in support of the Pacific Northwest Silviculture Cooperative. \$350,000 in Research Foundation Program and \$515,000 in Forest Resources and Management Research Budget Line Items.

312. Question. What additional silviculture research could be met with successively larger increments of funding?

Answer. With successively larger increments of funding for silviculture research, we would broaden our emphasis on understanding forest stand dynamics and develop silvicultural guidelines for making forest land and natural resource decisions. This would include expansion of large-scale studies that examine how forest systems function and development of techniques that examine multi-resource options. We would expand our efforts to understand how silviculture techniques, including fire, affect forest productivity as well as other resources and conditions of the forest.

Two projects outlined below represent the highest priority next increment of research to be addressed by the Pacific Northwest Silviculture Research Cooperative.

A. Silvicultural options for young-growth forests managed primarily for wood production: \$350,000.

This project will develop and test options for harvesting and regenerating forests where social acceptance, economic returns, and sustainability are significant management concerns. Near-term products to aid public and private decisionmaking will include evaluations of social acceptability, visual appearance, educational efforts, and costs, return, and various impacts associated with different harvesting options. Data on quantity, quality, and value of wood produced under various harvesting and regeneration regimes would be obtained along with information on other forest values.

B. Combining silvicultural and genetic practices to improve quantity and quality of wood production: \$350,000.

Major advances have occurred in the science and practice of silviculture and genetic improvement, but efforts to blend the two approaches in management of Douglas-fir and other major species have been minimal. This project will synthesize existing knowledge and initiate new research to fill scientific gaps. It will lead to guidelines for deployment and management of improved or selected planting stock so that its genetic potential for producing large amounts of wood of desired quality is more fully realized. It will also provide guidance for developing further improvements in the genetic potential of trees and the growing environment in production forest ecosystems.

313. Question. How will you involve industry and university partners in research projects covering the Pacific Northwest?

Answer. A broad base of forestry research and forest management organizations in the public and private sectors are committed to strengthening existing research programs and supporting new research to fill knowledge gaps and foster closer ties among researchers and managers throughout the Pacific Northwest. One manifestation of this commitment is the Pacific Northwest Silviculture Research Cooperative (PNSRC), which is a strong regional partnership whose Executive Committee is comprised of the Oregon State Forester, the Supervisor for the Washington Department of Natural Resources, the deans of forestry from the University of Washington and Oregon State University, the Bureau of

Land Management State Director for Oregon and Washington, the PNW Station Director and R-6 Regional Forester, and regional research leaders from private industry, which holds three positions on the Committee. The American Forest and Paper Association supports the PNSRC at the national level. Collaboration among university, state, and federal scientists is enhanced by industry's in-kind contributions of support and research. The work will help develop and refine management options for increasing the quality and quantity of wood from managed lands, helping public and private land managers make better informed decisions on the management of forest ecosystems.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

SENECA ROCKS VISITOR CENTER

In May, 1992 the Seneca Rocks Visitor Center burned to the ground. This visitor center serves as a primary contact point for the Forest Service to interact with visitors to the northern end of the Monongahela National Forest. Visitation in this portion of the forest is strong because of its relatively close proximity to the Washington, D.C. area. Visitation is also expected to be enhanced with the establishment of the nearby Canaan Valley National Wildlife Refuge.

In the FY 1993 Interior bill, I secured \$325,000 for the planning and design for a replacement facility at this location.

314. Question. What is the status of the planning and design? Have all issues been resolved, or are there additional clearances necessary before you can proceed to construction?

Answer. The design contract was awarded March 1994. We are currently 50 percent completed on the construction documents phase of the contract. Completion is scheduled for mid-June.

Due to the heritage resources found at the selected site for the Visitor Center, a data collection contract was necessary. That contract, awarded in March 1995, has had a significant increase in the number of features previously identified on the site. Therefore, the completion date for the fieldwork portion of the contract is being extended to approximately June 2, 1995.

There are two issues that have not, as yet, been fully resolved. First, the West Virginia State Historic Preservation Office (SHPO) has not yet given permission to expand the data collection to include a newly designed parking area. A meeting was held May 10, 1995, to help resolve the SHPO's remaining concerns and to gain permission to proceed with the data collection. Second, The West Virginia Department of Highways is considering the requirement for a left turn lane on State Highway 28 at the entrance to the new facility. If this requirement becomes a reality, a minor design modification should alleviate the issue.

In the FY 1994 bill, funds were provided to initiate construction of this project, with the understanding that the dollars would be provided in phases, but timed so that one construction contract would be awarded, rather than having to split the contract into pieces

315. Question. When do you anticipate being able to award the construction contract? Do you have sufficient funds to award the construction contract?

Answer. Award of the initial construction project should be possible in September 1995. At this time, there are sufficient funds to award a contract for the building, parking lots, and roads.

316. Question. If the Forest Service is successful in awarding the construction contract later this year, when would the contract for the exhibits inside the facility need to be awarded?

Answer. The exhibit fabrication and installation contract should be awarded by March 1996, to allow completion of the work prior to the scheduled opening of the visitor center.

317. Question. Based on the progress of the planning and design efforts thus far, what is the current estimated cost for construction of this facility?

Answer. The estimated cost of the structure with utilities, roads, parking lots and landscaping, is estimated at \$4.1 million. The cost of exhibits, furnishings, audio/visual programs and equipment, site signage, and lower parking lot paving is estimated to be \$1.2 million, and contract administration is \$0.3 million.

318. Question. What is the availability of funds for this project based on the FY 1994 and FY 1995 appropriations?

Answer. The current funds available are \$4.2 million.

319. Question. So you need an additional \$1.4 million in FY 1996 in order to complete the facility as presently designed, is that correct?

Answer. Yes, the additional \$1.4 million will be required for the fabrication and installation of the exhibits as designed under the current design contract and to cover contract administration and overhead.

320. Question. If the additional amounts necessary to award the exhibits contract are not forthcoming in the FY 1996 appropriations bill, what consequence would this have on the opening of the facility?

Answer. Any delay in funding the exhibits will impact the opening date of the new center.

321. Question. If the remaining funds necessary are appropriated in FY 1996, and you are successful in awarding the construction contract later this year, and the exhibit contract next year, what is the estimated duration for the construction contract? When would you anticipate being able to open the new facility to the public?

Answer. Duration of the construction contract will be approximately 18 months. This would coincide with a 12-month completion for the exhibit fabrication and installation contract and allow for a spring 1997 occupancy.

322. Question. So, despite everyone's best efforts to provide for a prompt replacement of the burned facility, we are looking at it taking 5 years from the time the original building burned to replacement?

Answer. That is correct. (See further explanation in question #323)

323. Question. What has caused this project to take so long? Has the time factor been due primarily to government contract and procurement requirements, or were there unforeseen circumstances that caused delays?

Answer. Several factors have led to the extended timeframe needed for completion of the project. The development of an accurate and reasonable interpretive plan for the building and the site, which laid the groundwork for the design contract, took considerable time in order to arrive at realistic guidelines for the remaining work on the project. The design contract involved the standard procurement timelines but also included a lengthy negotiation period which extended the award of the contract beyond what had originally been anticipated. Additional time was utilized to address all the environmental and heritage resource issues that arose after the final site was selected. Actually, there have not been any substantial delays at this point in the project.

MONONGAHELA NATIONAL FOREST

In the FY 1996 budget, the Administration is proposing the transfer or closure of the Bowden National Fish Hatchery, located outside of Elkins. While this proposal is made by the Fish and Wildlife Service, it would affect the fishery resources available on the Monongahela National Forest.

324. Question. One of the arguments made by the Fish and Wildlife Service is that Bowden hatchery production primarily supports resident state programs and thus is a lower priority. To what extent does the fisheries program on the Monongahela National Forest benefit from the production at the Bowden National Fish Hatchery?

Answer. The Monongahela National Forest (MNF) contains approximately 50% of the total trout stream habitat in West Virginia. The Bowden hatchery provides over one-half of the trout that are stocked in federal waters within West Virginia. Three out of four lakes and many miles of streams on the MNF are stocked throughout the year. Anglers depend upon hatcheries for the stocking of trout since many of our waters cannot sustain naturally reproducing populations due to acidity and other factors.

325. Question. If the Bowden National Fish Hatchery were not to provide fish for the Monongahela National Forest, what effect would this have on the wildlife and fisheries programs of the forest?

Answer. Trout fishing provides almost a quarter million angler-days of recreation use on the Monongahela National Forest each year. Loss of these fish would undoubtedly result in a severe reduction in recreational fishing opportunities.

326. Question. What is the estimated economic impact from the fisheries programs on the Monongahela National Forest, as aided by production from the Bowden hatchery?

Answer. According to the 1991 National Survey of Fishing, Hunting, and Wildlife- Associated Recreation the West Virginia anglers spent an average of \$27 per day fishing. This equates to over \$6,750,000 a year in expenditures. The calculated value associated with coldwater fishing in Region 9 of the Forest Service is \$51/day. This equates to over \$12.5 million in public benefits.

FORESTRY RESEARCH

The Forest Service operates research facilities in Morgantown, Parsons, and Princeton, West Virginia.

327. Question. What is the level of funding proposed for each of these locations in FY 1996? How does this compare to FY 1995?

Answer.

(Thousand \$)

<u>Location</u>	<u>FY1995</u>	<u>FY 1996</u>	<u>Difference</u>
Morgantown, WV	2,098	2,016	-82
Parsons, WV	1,941	1,886	-55
Princeton, WV	<u>2,121</u>	<u>2,188</u>	<u>+67</u>
Total	6,160	6,090	-70

328. Question. What is the current research staffing level at each of the three West Virginia units? What is the projected staffing in FY 1996?

<u>Location</u>	<u>FY 95 Staffing Level</u>	<u>FY 96 Projected Staffing Level</u>
Parsons	24	26
Princeton	21	22
Morgantown	24	24

Total Current Staffing Level in West Virginia = 69 (61 Research/8 Administration)

Projected FY-96 Staffing Level in West Virginia = 72 (63 Research/9 Administration)

In our downsizing effort we are looking very carefully at all positions which have been vacated. Although we anticipate filling very few positions, the final decision on filling those few will need to wait until a decision has been made on rescission.

329. Question. What effect did the availability of the early-out retirement option have on the staffing of the research units in West Virginia?

Answer. Twelve people from our research units in West Virginia accepted the early retirement option. This included 4

scientists, 3 technicians, 1 secretary and 4 support people. The main effect on the program will be the loss of scientists from our wood utilization and hardwood industry economics units at Princeton, WV. Research productivity of both of these units will be significantly impacted. The loss of the technicians will result in the research programs progressing at a slower rate or part of the research will be stopped. The loss of the research support positions will create longer delays in purchasing supplies and other administrative functions. The current plans are to fill the secretarial position and one or two of the support positions in order to provide the necessary support for the remaining scientists.

In general, the Forest Service research budget has been unable to keep pace with the additional costs imposed due to Federal pay raises, increased benefit costs, and other such fixed costs.

330. Question. How has this affected the research program?

Answer. The increased costs of doing our research business, coupled with fixed or reduced funding through inflation, have reduced our research capability. In general, we do not have the research dollars available in our operating budgets for our scientists to maintain or establish and carry out the research needs and demands of the Nation. We have and are continuing to reduce our administrative overhead. In many cases we are not able to fill vacant positions in order to use the funding to maintain the scientists we retain. Reduced operational budgets and fewer scientists equates to a smaller Forest Service program, as well as a reduced program for extramural cooperative research with universities and other partners.

331. Question. In particular, what has been the effect of a relatively level budget on the work being conducted in West Virginia?

Answer. The FY 1996 President's Budget provides sufficient funding to address the highest priority research needs in West Virginia. However, to keep pace with the additional costs and provide sufficient funding for this research, we are not filling some vacant positions and instead, are using these funds for operating expenses, new equipment and training for our scientists. The recent Voluntary Incentive Separation Program (the buyout), which reduced the staffing in West Virginia's research units by 12 positions, will contribute significantly to maintaining healthy operating budgets and allow us to respond to the priority research needs within the President's Budget. This loss of scientific staff has led us to reexamine our research programs and make changes, where necessary. For example, we are reducing our emphasis on international trade and the hardwood flooring markets and focusing our remaining scientists on domestic markets and the pallet industry, which our customers tell us are more important.

LAND ACQUISITION

The FY 1996 budget proposes \$400,000 in land acquisition funding for the Monongahela National Forest for an effort described as "West Virginia Heritage".

These funds will be used for various inholdings within the National Forest.

332. Question. Are these acquisitions proposed because there are willing sellers?

Answer. These acquisitions are proposed because they are important to meeting the goals of providing increased recreational opportunities, protection of historical and cultural resources, and more efficient management of the Forest's boundaries. They are also significant because all of the proposed acquisitions would be completed on a willing seller basis.

333. Question. What are the development threats to the various acquisitions contemplated that justify acquisition at the present time?

Answer. The primary threat of development at this time is the acquisition of inholdings by developers of recreation/vacation homes and hunting clubs. Further subdivision of these inholdings will make future consolidation of the Monongahela NF very difficult and far more expensive to obtain.

334. Question. Are there savings to Forest Service management costs associated with consolidation of inholdings and ease of boundary management?

Answer. There will be significant savings in boundary management costs resulting from the consolidation of these inholdings. All of the proposed parcels are contiguous with other Forest System lands and their acquisition would eliminate the need for posting and marking of property boundaries.

One of the acquisitions involves properties with Civil War significance in the Bartow area. One parcel includes Cheat Summit Fort. The Forest Service has proposed a "Civil War Management Initiative" to protect and interpret this, and other sites.

335. Question. What are the various components of this initiative? Are other acquisitions contemplated?

Answer. The purpose of the Civil War Management Initiative is to develop Cooperative Agreements with Pocohontas County to provide a variety of interpretive experiences focusing on the rich history associated with the Staunton-Parkersburg Turnpike area including Cheat Summit Fort. Additional acquisitions are anticipated, on a willing-seller basis.

336. Question. How are you presently interpreting these sites? What benefits will be achieved if acquisition is approved?

Answer. Interpretation is currently being conducted in cooperation with various civil war historical groups, who specialize in performing re-enactments of battles that occurred in the area. The Staunton-Parkersburg Turnpike area is unique in that it has remained almost unchanged since the Civil War. Therefore, continued acquisition will ensure future protection of the area's historical resources.

337. Question. Are there stabilization needs to protect the sites from further deterioration?

Answer. No stabilization activities are currently underway. However, continued acquisition is necessary to protect these historical sites from recreational development, destruction of troop entrenchments, and theft of civil war artifacts.

STATE AND PRIVATE FORESTRY

TIMBER BRIDGES

One of the ongoing efforts in the state and private forestry program is the timber bridge initiative, also known as "wood in transportation". The objective of this effort is to identify uses for wood products in non-traditional areas, such as bridge construction, but also posts, guardrails, sound barriers, retaining walls, and other aspects of the transportation infrastructure.

338. Question. What is the funding being provided for timber bridges in the FY 1996 budget? How does this compare to FY 1995?

Answer. The Timber Bridge Initiative is an activity of Economic Action Programs within Cooperative Forestry aimed at improving rural transportation networks, expanding the range of markets for wood products, and creating service industries for wood bridge construction. In FY 1995, the program was funded at \$1.7 million. The FY 1996 President's Budget includes the same amount, \$1.7 million.

339. Question. How much is being allocated for the Timber Bridge Information Resource Center in Morgantown, and how much is intended to be used for demonstration projects in FY 1996?

Answer. Approximately \$1.0 million is used to fund competitive national projects and other special projects demonstrating modern timber bridges and other modern applications for wood in transportation. \$700,000 covers operation of the Timber Bridge Information Resources Center in Morgantown, WV, to administer the program, identify, store, retrieve and disseminate information, coordinate and fund conferences, and provide field technical support in 8 Regions, the International Institute for Tropical Forestry and the Northeastern Area.

340. Question. Are the demonstration projects cost-shared?

Answer. Yes, the National Timber Bridge Initiative will fund 41 projects across the nation in FY 1995. The federal contribution for these projects is \$1,013,539 and cooperative contribution is \$1,764,104.

341. Question. Have the decisions on the FY 1995 projects been made yet? If so, can you tell us the types of structures proposed for construction and the location?

Answer. Yes, of the 41 projects funded in FY 1995, 21 are demonstration vehicular bridges, nine are demonstration pedestrian bridges, and 11 are special projects/studies. Of the 30 demonstration bridge projects funded, 16 are located in the northeastern states, seven in the southeastern states, and seven in the western states. The 11 special projects funded are with

organizations located primarily east of the Mississippi. Many of these special projects have benefits across the country. Special projects funded will include a demonstration railroad timber bridge, a demonstration of machine stress rating of hardwood structural lumber in the Appalachian states, a demonstration of starting a treating facility that will preservative treat timber bridge materials.

342. Question. Does interest in this program remain strong? How many applications were received for FY 1995 and how many awards were granted?

Answer. Yes, interest remains strong in the program, especially in exploring opportunities for using wood in other transportation-related uses. The Timber Bridge Information Center provided 100,000 brochures and related technical materials based on requests received in FY 1994. This year we received 84 proposals from across the country. The federal dollar amount requested from these proposals was \$2.7 million. This amount was proposed to be matched by \$5.8 million of cooperator funding. The Forest Service funded \$1,013,539 of the requests.

GYPSY MOTH

During the late 1980's and early 1990's, Congress provided funding for the Forest Service to support a 5 year pilot program known as the Appalachian Integrated Pest Management (AIPM) program. The purpose of this effort was to develop alternative treatments to deal with the effects of the gypsy moth. Traditional aerial spraying is used, but other, less intrusive trapping and treatment methods were tested as part of the AIPM program. The lands included in this effort involved not just Federal ownership (forest and park) but state and private ownership as well.

With the completion of this program, the efforts to address forest health were folded into the core forest management programs of the Forest Service. This national center is headquartered in Morgantown, WV.

343. Question. What is the status of these efforts to address forest health, especially in the Appalachian region? Does the gypsy moth remain as the primary forest pest to contend with, or are there other threats to forest health?

Answer. The National Center of Forest Health Management, located in Morgantown, WV, is fully operational. Another off-shoot of the Appalachian Integrated Pest Management Program (AIPM) is the slow-the-spread pilot project which is evaluating feasibility of retarding the advancement of infestations by using pheromone on the leading edges of the infestations. In addition, prevention and suppression activities for a variety of pests are planned.

While gypsy moth remains the most significant pest in terms of impacts and expenditures, there are several other forest health concerns. Acid deposition and ozone are suspected by some to be causing tree decline and mortality in the central hardwood region of the northeast. There is concern about the effects of butternut canker on the butternut trees of the region. The hemlock woolly adelgid is seriously affecting hemlock stands in portions of the Appalachian region. This pest is considered quite serious by

resource managers in New Jersey, Virginia, and West Virginia. Beech bark disease continues to cause significant beech mortality. Looper complexes regularly cause serious defoliation in the mid-Atlantic region. Pear thrips, though not as dramatic as some of these pests, is a source of continued stress on the maple resource. Yellow poplar is being impacted by a root collar borer in areas of Virginia and West Virginia.

344. Question. How many persons comprise the center at Morgantown? What is the budget proposed for these activities in FY 1996? How does this compare to FY 1995?

Answer. There are a total of 5 persons at the Center in Morgantown, and the proposed budget for FY 1996 is \$776,000. This is the same level of funding and personnel provided for the Center in FY 1995.

345. Question. What is the estimated acreage of defoliation caused by the gypsy moth in FY 1994? How many acres were treated?

Answer. The estimated acreage of defoliation caused by gypsy moth in FY 1994 was 859,004. A total of 1,058,028 acres were treated.

346. Question. How many acres do you expect to treat in FY 1995?

Answer. We expect to conduct suppression treatments on about 489,000 acres of which about 64,000 acres are in West Virginia. In addition, we expect to conduct eradication treatments on about 87,000 acres of isolated infestations in Arkansas, Tennessee, and Wisconsin.

In FYs 1994-1995, Congress provided base funding for pest suppression, but then provided additional funds through an emergency pest suppression fund. Thus, if unanticipated pest outbreaks occur, additional funds are available to assist in suppression activity. In FY 1996, however, no funding is proposed for the emergency suppression account, nor is adequate funding proposed in the regular account.

347. Question. The budget (p. 5-14) indicates that only 40 percent of the estimated pest suppression needs on Federal lands and only 24 percent on cooperative lands (p. 5-16). How will the Forest Service fund necessary pest suppression when it requests no funding for the emergency account in FY 1996?

Answer. No additional emergency pest suppression funds are requested since we anticipate that about \$16.6 million in unused emergency pest suppression funding authority will be available to carry forward into FY 1996. This unused authority, along with the regular pest suppression funds included in the President's Budget, should meet pest suppression needs in FY 1996.

348. Question. What has been the average pest suppression budget in recent years, and does the budget, with carryover, provide this funding level?

Answer. The current 5-year annual average pest suppression expenditure is about \$28 million. Pest suppression funding in the President's Budget, along with available emergency pest suppression

carryover authority and normal pest suppression estimated carryover funds from FY 1995, will meet pest suppression needs in FY 1996.

349. Question. Why does the budget, at a minimum, not request sufficient funding to meet the average amount of recent years?

Answer. We anticipate pest suppression needs in FY 1996 can be met with regular suppression funds and an estimated \$16.6 million in FY 1995 emergency fund carryover authority. Any needs above this amount will require an emergency declaration by the Secretary of Agriculture and transfer of funds from other USDA programs.

350. Question. At the same time the suppression program is being reduced, a significant increase is proposed for forest stewardship. Why does it make sense to put more money into stewardship if the funds necessary to protect stewardship investments from forest pests are not provided?

Answer. Pest suppression funding in the President's Budget, along with unused emergency pest suppression funding authority and normal pest suppression funding carryover, will meet all pest suppression needs in FY 1996.

TROUT POND

In FY 1991 and 1992, a total of \$1.1 million was provided for recreational improvements to the Trout Pond area on the George Washington National Forest. These funds were used for campground rehabilitation, picnic shelters, restrooms, and road improvements.

351. Question. What is the status of this effort? Is the construction completed?

Answer. In FY 1991, \$277,000 in Recreation Construction was appropriated for rehabilitating the picnic shelter and entrance station; remodeling the bathhouse and making it universally accessible; razing one toilet and constructing two universally accessible toilets in the picnic area. This project is complete. In addition, \$438,000 in road construction funds was appropriated for paving the entry road and repaving the interior roads. This project is complete.

In FY 1992, \$431,000 in recreation construction funds for rehabilitating 50 campsites, including the addition of individual electrical hookups; razing two bathhouses and replacing with two universally accessible, heated bathhouses in the campground; and constructing a playground. All projects are completed.

In addition, in FY 1995, \$145,000 in Recreation Construction was appropriated for razing one campground bathhouse and replacing it with one universally accessible, heated bathhouse. The construction contract has been let and completion is expected prior to August, 1995.

352. Question. Are there additional improvements contemplated at this location? If so, what are they and what is the estimated cost?

Answer. The State plans to connect Elkins, West Virginia, with I-66 which will provide better, more direct access to the urban population centers along the east coast and to I-81 to the Shenandoah Valley. The WV Department of Transportation has begun reconstruction and paving of the 10.9-mile Thorny Bottom Road; and WV #16, which will complete paved access to Trout Pond. With increased access, the following additional improvements are planned:

Near future priority needs:

Beach expansion and universal access	\$110,000
Other universal access items	225,000
Volunteer Village	120,000
Group campground	<u>500,000</u>
	\$955,000

Additional future priority needs:

Campground expansion, 50 units	\$1,250,000
Interpretive facilities	600,000
Long Mountain Trail Relocation (7 miles)	30,000
Improve Rockcliff Lakeside Trail	<u>35,000</u>
Total	\$1,915,000

Long-range plans include additional camp units (41), a work center, and housing facilities for seasonals. However, cost estimates are not available at this time.

FOREST SERVICE "REINVENTION"

The Forest Service has been engaged in a "reinvention" exercise to better align its multiple missions with its organization. To date, this review has been focused on the regional offices and the Washington office, as well as trying to change the way the Forest Service does its business.

353. Question. What is the status of the reinvention effort? Will the Administration be coming forward to Congress with its proposal from last December, or are revisions contemplated?

Answer. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995. The timing of the Secretary's confirmation and his commitment to personally review the original proposals in light of numerous comments received necessitated the delay.

354. Question. To what extent will any proposals to "reinvent" the Forest Service affect the field units of the research portion of your organization?

Answer. We expect to reduce the size of all field headquarters (including experiment station headquarters) as part of our overall streamlining effort. Any effects on field units (research work units) will be determined by station and research leadership based on future budget projections.

In addition to consolidating the research experiment stations for the northeast and northcentral regions, the proposal may also

recommend relocating the state and private forestry office for the northeastern region to Milwaukee, Wisconsin. This would put the offices for research, state and private forestry, and the national forest system in one location.

355. Question. What are the estimated costs and savings of this proposal?

Answer. We have already accomplished a downsizing of about 4,000 FTEs since 1992. From 1992 through 1999 this will result in a cumulative payroll savings of about \$1.1 billion. This reduction in personnel and payroll costs was accomplished coincident with reductions in resource program delivery in some program areas.

Additinal reductions planned for now through 1999 are:

National Headquarters	200 FTEs	\$35 million (cumulative)
Field Headquarters	600 FTEs	\$90 million (cumulative)
Field Offices	2,200 FTEs	\$125 million (cumulative)

These additional reductions in personnel and payroll costs will necessitate future reductions in program delivery, substitution of contract work for Federal workforce, or achievement of work efficiencies to compensate for reduced workforce.

The estimated cost of the National Headquarters restructuring is about \$4.7 million. Cost estimates for the field downsizing will be developed by the Regional Leadership Teams as they develop their detailed plans for achieving the downsizing.

356. Question. What does the Forest Service perceive to be the benefits of moving the Northeastern Area further away from its clients in the Northeast, Mid-Atlantic, and Appalachian regions?

Answer. The Regional Leadership for the Region, Stations, and Area will recommend how best to be organized to accomplish their collective missions. Specific proposals would be developed in collaboration with the National Leadership Team and forwarded to Congress for consideration. The benefits of a consolidation of the leadership would be more thorough resource planning, better integrated resource management, and more timely incorporation of research information in the management of forest lands for the entire northwestern quadrant of the country.

357. Question. Why are the perceived benefits not attainable through the use of modern technologies such as facsimile machine, electronic mail, teleconference, and telephone?

Answer. Leaders in the Research, State and Private, and National Forest System organizations already make extensive use of these technologies, and will do so even more in the future. Some of the benefits identified above are partially realized through using these technologies, but there is no 100% substitute for the physical co-location of leadership in one facility.

358. Question. How many persons would be affected by the proposed consolidation? What are the costs associated with moving these persons?

Answer. The Regional Leadership for the Region, Stations, and Area will recommend how best to be organized to accomplish their

collection missions. Specific proposals would be developed in collaboration with the National Leadership Team and forwarded to Congress for consideration. The initial estimate from the December 6, 1994, report is that the entire research field restructuring (nation-wide) would enable a reduction of approximately 25 employees. The actual number of employees who would move as a result of a consolidation of headquarters in Milwaukee and the associated costs would be determined by the Regional Leadership Team based on their assessment of personnel staffing needs.

359. Question. Some have criticized that rather than focusing on improving the "how" and "what" of its business, the Forest Service is focusing on the "where". What is your response to such criticism?

Answer. Most employees, customers, and constituents have focused their attention and energy on the structural reorganization aspects of the Forest Service proposal. This is unfortunate, because we estimate that only 10% to 20% of the potential value lies in structural changes. We continue to focus our activities on the 80% to 90% that is the "how" and "what" of our business. We believe that is where we will realize the greatest benefit in creating a Forest Service that works better and costs less.

FIREFIGHTING

The 1994 fire season was one of the most devastating in recent memory. It extracted a horrible human cost, as evidenced by the tragedy at the South Canyon fire in Colorado last July. In addition, last year was a very expensive one for the Federal firefighting program.

Despite appropriations of over \$675 million in FY 1995 for firefighting purposes (\$226 million for the regular suppression program, and \$450 million in emergency funding), the Forest Service had to exercise emergency transfer authority to address the immediate needs for fire suppression last summer and fall. In the end, \$295 million remains to be repaid to the Knutsen-Vandenburg (K-V) Reforestation account from which it was transferred.

360. Question. If the Congress is unwilling to provide an emergency designation, as has been done in prior years, to address extraordinary firefighting requirements, what effect would this have on the K-V program?

Answer. It could have a profound effect on the K-V account. This account is one of the few Forest Service permanent funds with a significant cash reserve. As such, the K-V account is one of the few we can draw from in dealing with fire emergencies. To date, emergency firefighting requirements have necessitated that we borrow nearly one-half of the available cash in K-V accounts. This has occurred despite the emergency designation, as was done in previous years. Without this designation, it becomes more likely that we will have to draw from K-V accounts to deal with fire emergencies. These actions will further jeopardize the renewable resource work for which these K-V funds were collected.

361. Question. What would be the effect of failure to carry out the anticipated K-V work on the forest ecosystem?

Answer. Failure to carry out required reforestation work would delay the recovery process and thereby reduce resource productivity. It is clear that Congress intends that we promptly reforest National Forest System lands following regeneration harvest, as required under the National Forest Management Act of 1976. K-V funds are our primary source of doing this work. Without these funds, we will have difficulty in regenerating these areas within a five-year timeframe and the likelihood of creating a reforestation backlog is high.

Failure to carry out the other renewable resource work violates National Environmental Policy Act (NEPA) decisions included in timber sale project environmental documents. Failure to carry out habitat improvement projects will also have undesirable consequences in terms of resource productivity and sustainability.

362. Question. Funds in the K-V account are deposited by timber purchasers for the conduct of work specified as part of the timber sales contract. What legal liabilities face the Forest Service if the funds are not available to accomplish the work for which the deposits were made?

Answer. It is true that work identified on the sale area improvement plan is part of the timber sale contract. The Forest Service may make changes in the K-V work required under the timber sale during the life of the timber sale to incorporate changes and more accurately reflect project costs and resource needs. When the sale closes, the status of the sale area improvement plan is frozen, and in theory, we are obligated to complete the funded work specified on the plan. We have not yet had to deal with legal challenges that might result from programmatic changes arising from an inability to restore borrowed funds to the K-V account.

The biggest legal challenge likely to face the Agency if the borrowed K-V funds are not restored is related to ensuring prompt reforestation following regeneration harvest as mandated under the National Forest Management Act of 1976. About one-half of our K-V collections go toward funding reforestation treatments on these areas. It will be difficult to promptly complete this work, if resources are not made available to carry it out.

363. Question. What is the current balance in the K-V fund? Does the Forest Service believe it will have enough resources to get through the 1995 fire season?

Answer. The K-V fund balance is currently \$540 million. Our FY 1995 program of work in K-V is approximately \$280 million. We anticipate at least \$200 million in collections during FY 1995. We hope we do not have to further impact the K-V account during 1995. We also hope we have the resources needed to get through the 1995 fire season, but given the uncertain elements involved in this prediction, it is impossible to say this with certainty.

364. Question. If the Committee were unable to repay the K-V account except by reducing the other Forest Service programs by the amount owed (presently \$295 million), what effect would this have on the programs of the agency?

Answer. This action would profoundly affect our programs. The \$295 million owed to the K-V account represents nearly one-half

of the K-V fully-restored account balance and nearly 15% of the Agency's annual budget. If offsetting reductions were limited to National Forest Appropriations this would be about a 22 percent reduction in all program areas for one year. About one-half of the K-V collections are needed to complete reforestation treatments following regeneration harvest as required by the National Forest Management Act of 1976. If appropriated reforestation funds were reduced to make funds available to complete this work, it would impact planned reforestation treatments on recent burns and delay other needed rehabilitation work being done under our appropriated reforestation program. This same scenario would repeat itself in wildlife, fisheries, range, soil and water, and recreation program areas, if a similar strategy were imposed in these program areas.

365. Question. Under such a scenario as described above, what approach would you recommend -- an across-the-board reduction, or would you propose to terminate some programs and/or activities? Please provide specifics for the record.

Answer. We cannot provide specifics at this time. We have been operating under the assumption that K-V advances for emergency fire fighting purposes would be fully restored to K-V accounts. If these funds are not to be restored, or if it will be necessary for us to take drastic measures to restore these funds, we will have to carefully evaluate the proper course of action. Since K-V funds are managed in fund pools on each proclaimed National Forest, we will need to ask each Forest Supervisor to evaluate their situation. We can say no matter what course of action we adopt, it will have sweeping influences on every National Forest. The effect will be devastating to some Forests.

366. Question. How many persons were pulled off of regular duty to assist in firefighting last season? What effect did this have on the conduct of the timber program?

Answer: The Forest Service accounting system does not provide this information. However, a recent survey of all Regions indicates that about 15,000 non-fire employees spent some amount of time fighting fire. The amount of time each person spent varied widely--from a few hours to 2-3 months. It is the people who are away from their regular jobs for weeks at a time that had the greatest impact on non-fire programs.

Many factors affected the FY 1994 timber program, including the personnel being temporarily reassigned to fire duties. One indication of the affect is the 207 million board feet of timber volume that was not offered for sale in FY 1994 but was carried over to FY 1995. Another indication was the decrease in advanced sale preparation for FY 1995. Regions indicated firefighting assignments contributed, in part, to these volume shortfalls; however, estimates were not determined for each delay factor.

367. Question. In the House-passed version of H.R. 1158, timber targets are mandated, and the Forest Service would be directed to complete specified portions of the program within a stated time-period. What effect would this have on the Forest Service's firefighting capabilities if it were unable to move persons off of timber preparation to assist in firefighting?

Answer. The Forest Service relies on fire suppression support from the timber management program and other functions within the agency. It also relies on an extensive national mobilization network that draws on suppression resources available from other agencies, as well as the military, the States, and contractors. Suppression costs to the government and indirect impacts to cooperators may be significant when national mobilization efforts become necessary. The Forest Service will make every effort to meet timber targets. However, it will rely on fewer agency people and anticipate higher suppression costs.

GENERAL BUDGET

In FY 1996, the overall budget in appropriated funds for the Forest Service is \$2.4 billion, an increase of \$58.6 million above the FY 1995 enacted level for comparable programs (does not include FY 1995 emergency appropriations for pest suppression [\$17 million] and firefighting [\$450 million].)

Within this total, significant redirection is proposed, including decreases for timber sales, recreation construction, law enforcement, and other programs. Increases are proposed for forest health, rangeland management, cooperative forestry, firefighting, and recreation use.

368 Question. How would you restructure your budget if the total amount to be provided could not exceed the FY 1995 enacted level? Please provide details for the record.

Answer. The budget as presented reflects the mix of programs that we feel can best be accomplished in FY 1996. The Budget line item funding levels will allow us to provide services to our users and the public at large and at the same time protect the resources we have responsibility to manage. At the FY 1995 funding level reductions would focus on decreases in the Land Acquisition and Construction programs in order to allow us to place emphasis in programs where increases have been requested, e.g. Forest Health Management, Rangeland Management and Cooperative Forestry.

369. Question. A major increase of \$25 million is proposed for the rangeland management program. Subsequent to the budget being submitted, a reprogramming has come forward for FY 1995 funding for the rangeland program. If the reprogramming is approved, what would be the change between the revised FY 1995 level and the proposed FY 1996 funding?

Answer. Approval of the reprogramming request would not effect the proposed FY 1996 funding level. The funding level requested for FY 1996 is necessary to accomplish comprehensive analyses scheduled in the Chief's strategy to address expiring grazing permits in 1995, 1996 and subsequent years. The reason permit issuance has been so contentious in 1995, is because comprehensive analyses of resource conditions had not been performed, documented or monitored. Adhering to the schedule is required to avert another permit issuance crisis.

370. Question. If the proposed funding for the rangeland program is not forthcoming, what effect will this have on the completion of

the updated plans, as well as improved management of grazing allotments? What is the minimum amount necessary to comply with negotiated out-of-court settlements?

Answer. If adequate funding to complete scheduled comprehensive analyses is not forthcoming, updated plans cannot be developed. Sound resource stewardship requires inventory and analysis of resource conditions prior to developing plans and implementing improved management. Negotiated out-of-court settlements are legally binding and must be performed in any funding scenario, possibly at the expense of other program areas. The proposed funding level is the minimum amount that will allow realization of measurable progress toward settlement obligations without impacting other programs.

371. Question. Given the probable enactment of some sort of aggressive timber salvage program in the FY 1995 rescission bill (H.R. 1158), how will this affect the proposed "green" (or new) timber sales program proposed in the FY 1996 budget?

Answer. Estimates of the regions' capability to implement the proposed salvage sale amendments were developed under the assumption that the green timber sale program would be as requested in the President's budget. The organizational capability of 5.4 billion board feet of salvage through fiscal year 1997 will not affect the green timber program. Additional green volume is possible in Regions 8, 9, and 10 because of their limited salvage and some of the other regions have limited potential to increase green volume in fiscal year 1996 (see following table).

Total capability in Green Volume Assuming an Accelerated Salvage Program

Region	President's Budget	Total Capability
1	105	105
2	136	161
3	73	104
4	99	117
5	188	250
6	350	350
8	638	715
9	403	520
10	222	310
Total	2,214 MMBF	2,632 MMBF

Cost estimates:

	Additional	Total
Green Program	NFTM = \$30,968,000	= \$188,581,000
	CNTM = \$ 5,583,000	= \$ 59,165,000

372. Question. Are there adjustments to the FY 1996 budget that the Forest Service would propose in response to enactment of a salvage amendment?

Answer. No. If enacted there will be some increase in the total timber sale level.

The budget also proposes a significant increase (\$21 million) for the stewardship programs. These funds are proposed to increase technical assistance and multi-resource management practices on non-industrial private forest lands. Part of the reason for this growth is the increase in timber harvesting and declines in reforestation on these same types of lands.

373. Question. What factors have contributed to the increase in harvesting on private lands? Is it due in part to the decreased supply coming off of the Federal lands?

Answer. Two major factors have contributed to the increase in harvesting on private lands. One is increased demand on the part of consumers; the other is the decreased supply coming off the Federal lands, particularly in the West. State Foresters in the South and the West report that within the past two years a shift has occurred on nonindustrial private forest lands. Where growth traditionally exceeded harvest or cut levels, they are now reversed and a number of these states are in a timber drain situation. There is also evidence that landowners fear more government regulation, which may be a contributing factor in the increased harvesting levels.

374. Question. How has the value of private timber lands changed over the last several years? What is the average increase in timber stumpage?

Answer. The value of private timber lands has increased significantly. The main driving forces are 1) an increase in the demand for forest products in the U.S. and worldwide; 2) a decrease in the timber harvested in public forests in the Pacific Northwest; 3) general growth in the economy and lower interest rates; and 4) increases in stumpage prices over the past several years. The value of timber land consistently showed a steady upward trend and showed corresponding distributed lagged response to increases in stumpage prices.

Since 1990 the average price increase for both softwood and hardwood timber has been approximately 15 percent annually.

375. Question. The budget proposes to decrease timber sales from Federal lands, which will contribute to an increase in demand for timber from private lands. In response to such expected demand, the Forest Service proposes to increase the stewardship program. What would be the expected requirements for stewardship funding if the Federal program were maintained at the FY 1995 level?

Answer. If the federal programs were maintained at the FY 1995 level, the requirements for funding the Stewardship programs would be Forest Stewardship \$25,920,000, and for the Stewardship Incentives Program \$18,283,000.

376. Question. Why, when private landowners reap the profits from increased harvesting, should the Federal government share in the cost of improving their lands further?

Answer. Forestry is a long-term investment often spanning 40-100 years or more and beyond the lifespan of individual owners. Thus landowners are inclined to be more short-term in their view and use of proceeds from the sale of timber. The focus is on immediate needs and not the long-term improvement of the land.

Taxes play a major role in landowners' decisions about the investment and management of their lands. The 1986 revision to the tax code imposed a harsh tax burden on timberland owners, and is unintentionally providing a disincentive to sound forest management. The elimination of the long-term gain rate differential has been extremely costly to small woodland owners in terms of return on investment. How the timber is harvested also has broader societal impacts in terms of environmental quality.

Given the large amount of nonindustrial forest land in the U.S., its increasing importance to future timber supplies and environmental quality from a national context, coupled with the short time horizons of ownership, there is a continuing Federal role to share in the costs of improving these lands so as to assure they are managed in a sustainable manner over the long term.

377. Question. How are the investments proposed by the stewardship program different from the activities conducted as part of the K-V program?

Answer. The K-V program funds are restricted in their application to National Forest System lands and are not leveraged. National Forest System lands represent 17 percent of the nation's timberland. The investments involving the Stewardship programs are aimed at nonindustrial private forest lands (59 percent of the nation's timberland). In addition to timber production, Forest Stewardship funds are also used to achieve broader societal multiple use and environmental goals related to nonindustrial private forest lands (e.g. wildlife habitat, water quality, riparian protection, agroforestry applications, etc.) In addition, Stewardship funds are leveraged at the State level and through individual nonindustrial forest owners.

378. Question. Why shouldn't the stewardship investments for private lands be treated as a cost of doing business, just as the K-V program is a cost of doing business when timber is purchased on Federal forest lands?

Answer. K-V funds are held for use from the proceeds of timber sales from National Forest Systems lands for the purposes of reinvestments in reforestation and timber stand improvement on these lands. Some states do have reforestation laws which require landowners to reharvest after the sale of timber. Most states, however, do not.

For the most part, owners of nonindustrial private forests have a much shorter time horizon when it comes to their forest lands. Proceeds from their timber sales are likely to be used for things like college tuition, retirement purposes, or simply by heirs to pay off federal and state inheritance taxes. For the most part, private landowners also do not have the tax advantages that forest industries have in the treatment of their timber income in terms of amortization of investments and capital gains. Under these circumstances there is less incentive for reinvesting.

With the increasing importance of nonindustrial forest land to future timber supplies, there is a continuing role for the Federal government to share in the costs of improving these lands so as to assure they are managed in a sustainable manner over the long-term.

379. Question. To what extent do stewardship requirements align with state reforestation requirements? In which states are the stewardship requirements more stringent than state law?

Answer. State requirements for Stewardship practices dealing with reforestation are set at the state level by a State Stewardship committee. The requirements set by the Committee would be in alignment with the requirements of that given state.

The only case where the state requirements for a stewardship reforestation practice would exceed state law would be where the State Stewardship Committee deemed so. This would most likely occur where local site situations require additional standards to ensure reforestation success. However, to our knowledge, there currently are no states with stewardship requirements more stringent than state law.

The budget indicates (p. 1-7) that approximately \$6.2 million in research funding is redirected to high priority research needed for implementing ecosystem management by reducing and terminating low priority programs.

380. Question. What are the research efforts proposed for programmatic reduction in the FY 1996 budget? For the record, provide a list of these projects, and identify their FY 1995 and FY 1996 funding.

Answer. The list of reduced research efforts/projects and their budgets for FY 1995 and FY 1996 appear in the following table. The reductions are specific to the projects identified. The funds are redirected to higher priority work in most cases at the same location, but not always. Please note the Location Funding.

Research Effort/projects	<u>Res. Effort Funding</u>		<u>Location Funding</u>	
	FY 1995	FY 1996	FY 1995	FY 1996
1 Intensive management practices and integrated pest management research (Gainesville/Olustee FL)	637,000	000	637,000	Close
2 Watershed research (University Park, PA)	260,000	000	260,000	Close
3 Air pollution and acid rain sensitivity (Macon, GA)	830,000	000	1,805,000	2,083,000
4 Wildlife and livestock management	694,000	000	711,000	714,000
5 Livestock management (Fresno, CA)	100,000	000	1,917,000	1,917,000
6 Conventional timber harvesting (Houghton, MI and Morgantown, WV)	1,266,000	000	3,065,000	2,891,000
7 Quality-based timber appraisal (Portland, OR)	953,000	000	8,808,000	9,512,000
8 Timber bridge utilization	1,350,000*	850,000	21,034,000	21,357,000

(Madison, WI and Morgantown, WV)

9. Silviculture (Bend, OR)	760,000	000	767,000	760,000
10. Timber management and Forest environment (Parsons, WV)	1,941,000	1,186,000	1,941,000	1,886,000
TOTALS	8,791,000	2,036,000	40,936,000	41,120,000

*Also includes \$250,000 redirection of research on wood fiber characteristics and manufacturing processes at Madison, WI.

381. Question. Are any of the high priority efforts at the same location, so that disruption to personnel is limited?

Answer. With the exception of the University Park, PA; Macon, GA; Gainesville, FL; and Olustee, FL, locations, funding for the research efforts/projects is being redirected to higher priority efforts at the same locations. Thus, the disruption of personnel is limited. Please note funding changes by Research Effort/Project vs Location Funding in the table provided in the answer to question 380.

The budget proposes to fund the land acquisition account at the same level as was appropriated in FY 1995.

382. Question. While it might be desirable to maintain this level of effort, and acquisition might improve management and provide further protection for natural resources, how would the need for these acquisition projects compare with the other priorities identified in the Forest Service budget?

Answer. Projects are prioritized using a specific criteria system developed by the Departments of Agriculture and the Interior. The Administration's budget proposal for land acquisition is formulated to balance different areas of necessary land acquisition work, and is based on the priority of land acquisition among all discretionary programs. The Forest Service budget reflects this balance after considering all program priorities.

383. Question. Which of the projects proposed in the budget represent completion of efforts begun in prior years?

Answer. The following projects represent completion of acquisition begun in prior years:

1. Greater Yellowstone Area (Option expires in FY-96, additional funds are needed).
2. Big Sur Ecosystem (Will allow completion of Cozy Cove acquisition and purchase of Baldwin Ranch. Other critical properties remain to be acquired.)
3. Florida Wetlands (Tate's Hell- New River) (Option Expires in FY 96 - additional funds are necessary)
4. North Fork American
5. Sangre/Kit Carson (Negotiations for purchase are not completed).
6. Three Gun Spring
7. Rosaschi Ranch

8. Bonneville Shoreline Trail (Will allow completion of Taylor Cove. Other critical properties remain to be acquired to complete this project.)

In addition, there are several projects that involve the purchase of large properties over a number of years that will not be completed in FY 1996. They are:

1. San Bernardino (Garner Ranch)
2. Alpine Lakes (Plum Creek Timber)

384. Question. Which projects represent "level of effort" and are primarily ongoing programs to consolidate ownership and acquire inholdings?

Answer. The following proposed FY 1996 projects are primarily ongoing programs to consolidate ownership and acquire inholdings:

1. Chattooga W&S River Ecosystem
2. Columbia River Gorge NSA
3. White Mountain Scenic Area
4. Lake Tahoe Basin
5. Michigan Lakes and Streams
6. Tropical Forest
7. Minnesota Wilderness, Water & Wildlife
8. Missouri Ozark Mountain Streams
9. Tibwin Plantation
10. Appalachian Trail
11. Unique Areas and Lost River
12. Interloken Ridge and Seneca Lake
13. Allegheny National Forest
14. Mt Rogers NRA - Jefferson
15. Wisconsin National Forests
16. Wayne National Forests
17. Oconee-Ocmulgee River
18. Oregon Dunes NRA - Cascade Head
19. Tennessee Mountains
20. Skagit and White Salmon Wild & Scenic Rivers
21. Shawnee
22. Flathead National Forest
23. Daniel Boone - Redbird Purchase Unit
24. Talladega Extention
25. Central Louisiana Bayous
26. Green Mountain
27. West Virginia Heritage

The Forest Service must "consult" with the Fish and Wildlife Service on timber sales that may be proposed where endangered or threatened species may be present.

385. Question. How is the consultation process working? Are there lengthy delays in getting the reviews completed by the Fish and Wildlife Service?

Answer. Most consultations are completed in a manner that allows the Forest Service to complete land management activities in a timely fashion. Approximately 85 percent of Forest Service projects are determined to: (1) not affect federally listed species, and therefore do not require involvement of the regulatory agencies; or (2) are handled through informal consultation when

Forest Service biologists determine that an activity is not likely to adversely affect listed species, and the Fish and Wildlife Service and/or the National Marine Fisheries Service concur.

When formal consultation occurs, it usually is completed within the regulatory time frame of 135 days from the date the action agency requests it (this includes 90 days to conclude the consultation, with the biological opinion being delivered within the following 45 days). For Region 1 of the Fish and Wildlife Service (headquartered in Portland, Ore.), for example, the average turnaround time for Section 7 biological opinions is 83 days, and the Region recently committed to reduce that time to 60 days or less.

Although unusual, some Forest Service actions that have been subject to consultation have not proceeded in a timely fashion. Most such situations have been avoidable, and primarily have occurred when the Forest Service has waited until a species is actually proposed or formally listed to modify projects or plans to ensure compliance with the ESA. Under these circumstances, and especially when new listings have involved widely distributed species with habitat that encompasses numerous projects (e.g. the Snake River salmon and Mexican spotted owl) there have been delays in getting through the consultation process. At times, problems have occurred due to staff workloads being such that the either the action agency or the regulatory agency have faced a backlog.

386. Question. Are there steps that can be taken to expedite the process and eliminate delays or redundant reviews?

Answer. We have learned that a key solution to avoiding these situations is to address potential conflicts before a species is proposed for listing. Also, by giving proposed and category 1 candidate species consideration throughout the NEPA process, any alterations in a proposed action can be considered during the planning process and should be relatively easy to adopt. This is the direction that we are now trying to take more consistently. We also are taking better advantage of opportunities to develop conservation strategies and other approaches to management for proposed and candidate species, so that it is not necessary to list them as threatened or endangered.

There are several new interagency efforts to streamline the consultation process. In March, the Forest Service, BLM, Fish and Wildlife Service and National Marine Fisheries Service agreed to a joint approach for streamlining consultations related to forest health and timber salvage projects. In addition, Section 7 consultations are increasingly being batched to facilitate consultation on numerous similar projects. When such consultations are combined, the process is expedited. Also, the Department of Justice is taking the lead in developing counterpart consultation regulations which are intended to codify a process that will address how we deal with nonsite-specific consultations involving ongoing Forest Service or BLM actions, such as forest plans. All of these efforts should prevent delays in the future.

387. Question. Is it possible for the Forest Service to conduct its own reviews of proposed timber sales, possibly by having teams

who did not work on the sale preparation review the biological components?

Answer. The Forest Service is already responsible for making the determination of effects for proposed projects. Only when we make a "may affect" determination does the regulatory agency get involved under Section 7. This occurs in less than 15% of the projects.

Although the Forest Service's biological staff has the expertise to do the Section 7 review, it does not have the staffing to complete it and meet all its other biological responsibilities. Emphasizing listing prevention activities through ecosystem restoration, sensitive species management, early collaborative efforts in the NEPA process to avoid adverse impacts to listed species and implementation of the consultation streamlining measures being developed should solve any concerns about Section 7 delays.

QUESTIONS SUBMITTED BY SENATOR HARRY REID

FEDERAL LAND MANAGEMENT

As you are aware the Federal Land Management Agencies in the west and, in particular, in Nevada, are experiencing some difficulties in dealing with local government entities. Certain local governments have passed resolutions that assert they have authority over federal lands within their county's boundaries.

388. Question. What is the Forest Service doing to correct these misguided actions:

Answer. The Forest Service (FS) and the Office of the General Counsel (OGC) have written to county officials and others explaining that these enactments are unconstitutional and of no force and effect as applied to FS land management activities. At the same time, being sensitive to the legitimate concerns that are being voiced, the FS and OGC have encouraged these local governments to take advantage of and participate in the opportunities for public involvement already provided under federal law.

In some areas, our views have been disregarded and we have recommended that the Department of Justice initiate legal action with the objective of 1) affirming the United States' ownership of and management authority over public lands; and 2) protecting the health and safety of federal employees who are doing their jobs in accordance with federal law and regulation. To date, there are approximately 6 lawsuits challenging various aspects of these unconstitutional ordinances. We firmly believe that these cases will vindicate the government's position.

Attached is a press release which was issued by the Department of Justice concerning the litigation challenging resolutions adopted in Nye County, Nevada.

NEWS RELEASE FROM DEPARTMENT OF JUSTICE

UNITED STATES SUES NYE COUNTY, NEVADA
TO REAFFIRM CONTROL OVER FEDERAL LANDS
AND QUELL INTIMIDATION OF FEDERAL EMPLOYEES

WASHINGTON DC...In an effort to make clear that federal lands belong to all the people, the Justice Department today filed suit to end Nye County, Nevada's attempt to encroach on federal ownership and control of United States lands there. Dozens of counties, mostly in the West, have asserted ownership rights in federal land over the past several years as part of the so-called "County Supremacy Movement" (sometimes called the "State's Right Movement" or "Sagebrush rebellion II").

Federal officials also said the action would protect federal employees from local prosecution for carrying out their duties and help defuse growing tensions and an atmosphere of intimidation against federal employees.

A 1993 Nye County resolution claims that the state of Nevada, not the United States, owns national forests and other federal lands, and that Nye County therefore has the authority to manage these lands. A separate 1993 resolution claimed ownership of virtually every road on federal lands within the county boundaries.

Relying upon these faulty claims, the County has bulldozed National Forest lands, opened National Forest roads closed by the Forest Service, damaged natural and archaeological resources, and threatened federal employees with criminal prosecution and other legal action for implementing federal laws.

"Today's action is firm but restrained," said Lois Schiffer, Assistant Attorney General for Environment and Natural Resources. "It should send a message, loud and clear, that the United States does indeed own manage federal lands. We expect the court to quickly affirm that the federal government has sovereignty over federal lands and that federal employees must be allowed to do their jobs without interference."

Over the past four years, a growing number of counties, mostly from Western States, have sought to limit federal control of federal lands and to exercise local authority over them. Following Catron County, New Mexico's lead in 1991, about 70 counties have enacted or are considering enacting measures purporting to give them ownership of or management rights over federal land. An atmosphere of intimidation against federal employees has also been growing over the last four years.

The federal complaint filed today argues that the country has no plausible legal theory to support its claim of state ownership. The suit seeks to strike down Nye County's resolutions as a violation of the Constitution's Property and Supremacy clauses, and to reaffirm the right of the United States to own and manage its lands. The suit also seeks a permanent injunction preventing Nye County or any of its officials from seeking to implement the illegal resolutions.

"The Bureau of Land Management and the Forest Service have been working diligently to ensure that localities are properly involved in land management decisions, and we hope this process will improve once the courts have cleared up any confusion over the legal issues involved," added Schiffer.

Since passing the resolutions, Nye County initiated a series of well-publicized challenges to federal authority over federal lands. Last summer, the County passed a measure purporting to authorize the opening of a closed road within the federal Toiyabe National Forest, and a Commissioner later filed a criminal complaint against a federal officer who attempted to stop the county from enforcing its enactment.

Last October, the County voted to "authorize" the opening of two more closed Forest Service roads by bulldozer. Nye County has frequently threatened to file actions against federal employees who the county alleges are acting

outside of their jurisdiction when they carry out their Congressionally-mandated management responsibilities.

Kathryn Landreth, United States Attorney for the District of Nevada, said, "The county threw down the gauntlet when it authorized bulldozing on the forest and threatened Forest Service employees with criminal charges. We cannot let county officials use their offices to violate the law and mislead their constituents regarding federal law. The actions of county officials could serve to incite further inappropriate behavior."

The county claims that retention of public lands in federal control violates a legal principle known as "the Equal Footing Doctrine," which provides that all states admitted to the Union since the adoption of the Constitution have the same rights as the original 13 states.

The federal complaint asserts that the Doctrine does not require land ownership equality among the states, nor does it curtail the federal government's power under the Constitution's Property Clause. Instead, it simply requires that all states be given equal political rights and sovereignty.

389. Question. How have the recent bombings of the two Forest Service properties in Nevada effected employee morale?

Answer. Employees have reacted quite differently. Some employees experience increased levels of stress and anxiety, some have become very cautious in their work and movement around the forests, and others are incensed at the threats and acts against them and their organization. In a few areas there is a level of tension between employees and individuals who are outspoken against the government. However, our employees generally have a sense of determination and commitment to their jobs and responsibilities to provide proper care for public resources and act as good public servants. Morale seems to be good in spite of these recent incidents.

390. Question. What was the extent of the damage to these two facilities?

Answer. The March 31, 1995, bombing of the Carson Ranger District Office building, in Carson City, Nevada, caused damage to a rock face outside the building, structural damages to the wall and office, blew out windows on the south side of the office, damaged window frames and sills, damaged or destroyed internal components in the office (computer terminal, antique desk, and other items). The preliminary estimate of damage is \$5,000.

The outhouse located at the Thomas Canyon Campground in Nevada was also bombed. The five blasts at the outhouse damaged a window and toilet stools. Damage is estimated at \$665.

391. Question. What are you telling your employees to do if they encounter a hostile situation?

Answer. They should remove themselves from the situation as quickly and safely as possible. The health and safety of employees is more important than anything else in the Forest Service. Employees are instructed to be prudent as they do their work and to stay out of harm's way. They are to report any suspicious behavior to local law enforcement personnel.

392. Question. do you see any progress being made in the restoration of good relations with these local governments?

Answer. Yes. All levels of the Forest Service are endeavoring to involve and work closer with county governments and the results, expressed in mutually prepared MOU's for planning, law enforcement, training, fire protection, roads, etc., are very promising. In early May this year, at the request of the National Association of Counties (NACo), the Forest Service joined with representatives of other Federal agencies, environmental and conservation groups, and county commissioners to discuss ways to reduce tensions and improve working relationships surrounding the County Supremacy Movement. Participants agreed to take a strong stand against violence and lawlessness while, at the same time, doing all they could to resolve the issues in a mutually productive manner. Closer cooperation and consultation by Federal agencies with county governments was to receive additional emphasis. A "Public Lands Handbook" explaining county rights and responsibilities related to federal lands will be developed and issued by NACo to its membership in the near future.

In 1990 the Forest Service released a national strategy on "Working Together for Rural America" to guide the agency in working with rural people and communities on developing natural resource-based opportunities and enterprises that contribute to the economic and social vitality of rural communities (as stated in the policy). By focusing on community "vitality" rather than "stability" the agency is taking a much broader view of how it can assist communities--helping organize local efforts, developing local action plans, and assisting with projects. A core set of programs within the State and Private Forestry branch serves as the foundation of the overall effort; but participation on the part of Forest Service employees goes well beyond these authorities.

Since 1990 the agency has established a formal liaison position with the National Association of Counties; and received additional authority to assist National Forest-dependent communities and to facilitate community involvement by explicitly allowing employees to interact with and provide technical assistance to rural communities. Letters were sent in 1994 to employees to answer questions about the agency's Rural Community Assistance authorities and build understanding about the wide range of involvement that is possible. In 1994, more than 900 communities received direct assistance via the agency's Rural Community Assistance efforts which involved a variety of Federal, State, local, and non-governmental partners. Through the community organization, planning, and project implementation efforts progress is indeed being made to build and restore relationships.

393. Question. How do you feel about entering in to Memorandums of Understanding or M.O.U.s with county governments in the management of the public's natural resources?

Answer. Practically speaking, National Forest System lands are part of our National Heritage and more than just local users have an interest in these lands. The Forest Service is charged by law to administer all lands within the National Forest System. MOU's between the Forest Service and State and local governments are utilized to achieve mutual management objectives. Few counties have the resources, or the desire, to provide for the protection, management, and development of National Forest System lands in accordance with Federal laws, regulations and policies governing these lands.

In 1993 the Forest Service and the National Association of Counties (NACo) formalized a new partnership by co-signing a national-level Memorandum of Understanding (MOU). The national agreement recognizes that NACo and the Forest Service have common objectives of fostering the economic recovery of distressed rural communities and improving the economic viability of rural America. The MOU also established a full-time Forest Service liaison position with NACo which has been in place since then working on natural resource and community development related matters.

Within a broader ecosystem and community perspective, the Forest Service is entering into MOU's with counties and other agencies to facilitate collaborative planning efforts. For instance, in June 1994 the Forest Service and Beaverhead County, Montana, along with the Bureau of Land Management, Fish and Wildlife Service, National Park Service, and the State Departments of Lands and Fish, Wildlife, and Parks, signed an agreement to address the long-term land use patterns within the county in order to strike a balance among the many and often competing needs and interests. The area covered by the MOU consists of all lands within Beaverhead County; and the objectives include facilitating better communication and understanding, developing processes and procedures to meet respective responsibilities, and more.

QUESTIONS SUBMITTED BY SENATOR PETE DOMENICI

VALLECITOS SUSTAINED YIELD UNIT

Under the draft Recovery Plan for the Mexican Spotted Owl, released in March by the Fish and Wildlife Service, a great deal of the Vallecitos Federal Sustained Yield Unit in the Carson National Forest would fall under critical habitat. Some estimates suggest that 90% of the Unit would be affected. One of the benefits of the Unit as it exists is that an extremely high proportion of the timber sales completed within the unit are contracted by smaller operators. In fact, the Unit was set up specifically to address concerns over the long term stability and viability of smaller operators in the area, as the name "Sustained Yield" suggests, and to ensure that a reasonably constant number of jobs could be maintained in the area over the long term. Now it appears that the planning by local community and the Forest Service to establish this Sustained Yield Unit may have been of little benefit, due to determination that this area may be needed as critical habitat.

394. Question. Has the Forest Service examined the potential effect of this draft recovery plan on its ability to maintain a constant and sustainable supply of timber on this type of unit, or on this unit in particular?

Answer. The draft recovery plan issued by the Fish and Wildlife Service does not contain proposed critical habitat. The delineation of critical habitat was a separate exercise completed by the Fish and Wildlife Service and issued as a proposed rule on December 7, 1994. The Forest Service has submitted comments to this proposed rule. Included in these comments is our concern that the objectives of the Vallecitos Unit may not be met with its inclusion as critical habitat.

The recovery actions included in the Draft Mexican Spotted Owl Recovery Plan are currently being evaluated by the Forest Service for inclusion in the management direction document being prepared by our Southwestern Region. The final environmental impact statement (FEIS) which will address specific forest plan amendments to include standards and guidelines for the Mexican spotted owl is scheduled for completion this October. The effects of implementation of the recovery plan actions will be evaluated in this FEIS.

395. Will the recovery plan result in the need for additional planning or evaluation, or was the eventuality of action under the Endangered Species Act considered in the initial planning of the unit?

Answer. The management for the Mexican spotted owl was not considered in the initial planning of this unit. Current timber sale projects proposed in this unit are design to meet the management guidelines included in the draft recovery plan and undergo site-specific consultation with the Fish and Wildlife Service.

396. Question. Is it likely that reductions in the volume of timber sold will be necessary for as long as the area is considered as critical habitat? If so, what is the purpose of establishing this type of unit to maintain the long-term economic stability for the local community, if the whole thing can be undone under a recovery plan?

Answer. It will not be likely that reductions will be necessary if the actions identified in the draft recovery plan are all that is needed under the proposed critical habitat designation. It is important that the proposed critical habitat designation process and the recovery planning effort be an integrated and coordinated effort. The recovery plan is a discretionary document, critical habitat designation is not. Both the recovery plan and the designation of critical habitat are the responsibility of the Fish and Wildlife Service.

U.S.FOREST SERVICE -- REORGANIZATION PLAN

In the Administration's testimony, it is stated that Secretary Glickman will review the reorganization plan for the Forest Service, which was expected to be submitted last March 31, and take appropriate action after that review.

397. Question. What is the current timeframe under which the Secretary will be reviewing this report?

Answer. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995. The timing of the Secretary's confirmation and his commitment to personally review the original proposals in light of numerous comments received necessitated the delay.

398. Question. What is the target date for submission of the reorganization report to the Congress?

Answer. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995.

399. Question. Is it correct to assume that the Secretary will allow sufficient time for congressional review of the proposed reorganization and approval of the plan before moving forward to implement its recommendations?

Answer. Yes. It has always been the intent of the Department and the Agency to work with the Congress on implementation of any restructuring that requires congressional approval or concurrence.

400. Question. In general, how would you characterize the major themes of the pending reorganization plan?

Answer. The overall themes are (1) Increasing effectiveness of resource management through integration of regional leadership (National Forest System, Research, State and Private Forestry, and Operations); (2) Enhancing national leadership, oversight, and responsiveness through a more effective National Leadership Team, trans-disciplinary corporate teams, and realigned staff groups; (3) Customer service; (4) Reduction of internal bureaucracy; (5) Reducing costs through streamlining of the workforce; and (6) collaboration in providing administrative services with the Natural Resources Conservation Service.

401. Question. Do you believe its goals are consistent with the likely budget constraints facing the nation over the next seven years as Congress seeks to balance the federal budget?

Answer. Yes. In short, our goals are to create a more efficient and more effective Forest Service. These goals are eminently consistent with the desire of the Forest Service to continue to deliver excellent resource management and public service even with constrained budgets.

402. Question. If not, how does the Forest Service intend to restructure itself to meet new fiscal realities?

Answer. As stated in the answer to question number 401 our Reinvention proposal is consistent with continuing budget constraints.

403. Question. What are the highest priority activities of the Forest Service which should be supported even with constrained budgets?

Answer. The FY1996 President's Budget in total addresses the highest priorities. With few dollars to meet increasing demands, these priorities are supported primarily by reallocation of dollars and staffing. Examples of increases required to meet budget priorities are:

- (1) increase protection of ecosystems through increases in the fire management program
- (2) increases in our wildlife and fish habitat management program, fuel treatments and silvicultural thinning measures in order to restore deteriorated ecosystems
- (3) increased funding to deal with our recreation restoration backlog, accelerate environmental analysis of rangeland allotments and assistance to private landowners, all of which step up our efforts to provide multiple benefits to the American people

- (4) increase the Forest Research program to meet the demand for science which is key to controversial natural resource decisions
- (5) addition to our international forestry program to ensure our nation's economy and environmental interests are served

MAINTENANCE NEEDS

In the Administration's testimony, Under Secretary Lyons outlines some of the pressures upon the Forest Service for increased resources. One of those pressures is a backlog of recreation-related maintenance projects that now exceed \$1 billion.

404. Question. How would you characterize the overall condition of Forest Service recreation facilities?

Answer. To accomplish our mission, the Forest Service maintains infrastructure valued at about \$30 billion. The condition of this infrastructure has been declining for several decades. In many cases, it can no longer be maintained, but must be restored through reconstruction. In almost every case the construction budget is used to reduce the backlog or provide rehabilitation to keep facilities from falling into the backlog.

405. Question. What proportion of the backlogged maintenance projects could be addressed with the FY 1996 budget request of \$192.3 million?

Answer. The current estimate of backlog maintenance and construction/reconstruction is \$2.2 billion:

Recreation Facilities	\$818 Million
Trails	\$267 "
FA&O Facilities maintenance	\$ 96 "
FA&O Const/Recon.	\$503 "
Research Facilities	\$141 "
Roads and Bridges	\$440 "
Dams, F.S. owned	<u>\$ 14 "</u>
Total	\$2,279 "

The majority of the FY 1996 Budget Request for Construction, \$192.3 million, will be used to address infrastructure backlog construction and reconstruction needs. With this emphasis toward addressing our backlog, the Recreation request reduces the backlog by \$25 million, Trails increase by \$12 million, FA&O facility maintenance increases by \$800 thousand, FA&O construction increases by \$27.7 million, Research facilities increase by \$6.2 million, Roads increase by \$21 million, and Dams remain the same.

406. What proportion of these projects are facilities requirements? Of this amount, how much would be devoted to rehabilitating existing facilities, and how much would be devoted to constructing new facilities?

Answer. Of the FY 1996 budget request (\$192.3 million), approximately \$62.9 million is for construction/reconstruction of facilities. A breakdown between reconstruction of existing facilities and new construction is as follows:

	Reconstruction	New	Total
Research	3,827M	0	3,827M
Fire, Administrative and Other	11,530M	720M	12,250M
Recreation	<u>44,238</u>	<u>2573M</u>	<u>46,811M</u>
			62,888M

In the Administration's testimony, Under Secretary Lyons outlines some of the pressures upon the Forest Service for increased resources. One of those pressures is a backlog of recreation-related maintenance projects that now exceed \$1 billion.

407. Question. What proportion of these projects are associated with trails maintenance? Roads maintenance?

Answer. None. The FY 1996 Budget request for construction (\$192.3 million) provides \$129.4 million for road and trail construction and reconstruction. The NFS appropriation funds road and trail maintenance (versus construction) in the road maintenance and recreation use and wilderness expanded budget line items.

408. Question. The Forest Service construction budget has been funded in the \$200 to \$250 million range over the past two years. How big of an impact has this funding had on the existing backlog of projects?

Answer. Despite this level of construction budget over the past two years, the infrastructure backlog continues to grow. To keep the backlog from growing from inflation alone would require \$15 million for FA&O construction, \$4 million in Research construction, and \$24 million in Recreation construction. This assumes a 3 percent inflation rate. Funding above these levels would reduce the backlog.

409. Question. Where does the construction budget fall on the overall priority list of programs carried out by the Forest Service?

Answer. In establishing agencywide priorities, we believe we have put forth a budget that balances the needs for all Forest Service programs within budget constraints and responds to our diverse mission of caring for the land and serving people with multiple benefits.

410. Question. The Administration testimony also indicates that recreation use on national forests is increasing rapidly. What measures does the Forest Service use to quantify this trend?

Answer. The Forest Service tracks recreation use by Recreation Visitor Days (RVD's) and by Visits. An RVD is a statistical reporting unit consisting of 12 visitor-hours. A visitor-hour is the presence of a person on an area of land or water for the purpose of engaging in one or more recreation activities during the period of time aggregating 60 minutes. A Visit is the entry of one person upon a National Forest for the purpose of participating in one or more recreation activities for an unspecified period of time.

Both RVD's and visits are estimated by Forest Service field units and reported through a computerized reporting system. Various ways

exist to display the information gathered: by Region and by State, by activity, and by year. Field estimates are based on the application of sampling techniques, traffic counters and other observation methods.

The Forest Service also estimates future use demands through the Resource Planning Act required Assessments. These outyear projections currently cover the following years: 2000, 2010, 2020, 2030, 2040. These projections are determined by recreation demand analysis studies conducted by Forest Service research at the SE Experiment Station. These projections are regionalized to the following degree: North, Pacific Coast, Rocky Mountains, and South. Index values showing projected changes in demand by various recreation activities are included.

411. Question. Could you provide the Subcommittee with a breakdown of this information by Region and national forest.

Answer. The information is available by Forest Service Region and by State. A copy of recent recreation use trends information is attached and a copy of the document "Projected Demand and Supply Projections for Outdoor Recreation" is also included.

TOTAL RECREATION USE REPORT SERVICEWIDE BY STATE
FROM 1986 TO 1994
(THOUSANDS RECREATION VISITOR-DAYS)

	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
Alabama	771.0	850.4	741.4	685.5	698.1	676.7	700.6	832.6	685.9
Alaska	3,584.6	4,085.3	4,354.5	4,636.2	5,413.6	5,717.9	5,887.5	5,514.8	5,723.6
Arizona	17,451.6	18,839.8	18,831.2	18,997.5	19,038.5	21,548.8	25,543.7	30,972.6	32,031.3
Arkansas	2,213.7	2,358.5	2,278.7	2,377.0	2,440.9	2,409.0	2,105.7	2,105.7	2,136.4
California	55,745.9	57,975.4	59,516.9	63,685.3	61,006.6	65,220.8	67,614.1	69,981.2	72,533.2
Colorado	20,158.7	22,583.3	21,484.0	23,238.2	25,204.2	25,998.0	29,053.0	30,106.3	32,173.1
Florida	2,637.2	2,731.5	2,707.5	2,851.5	2,961.2	3,080.8	3,104.4	3,123.4	3,157.4
Georgia	2,314.5	2,649.4	2,707.0	2,715.1	2,833.3	2,839.1	2,993.3	3,033.0	3,017.7
Idaho	10,342.1	10,804.5	10,736.3	11,738.3	11,819.1	12,908.5	13,084.8	13,455.0	14,238.5
Illinois	972.6	830.0	891.5	950.1	1,637.7	1,079.7	899.5	1,028.5	1,079.7
Indiana	425.1	483.2	430.1	568.8	594.0	551.8	551.8	501.0	508.9
Iowa	31.0	21.8	38.2	48.0	61.3	66.1	73.5	84.4	84.4
Kansas	2,162.9	2,248.7	2,301.3	2,327.0	2,446.5	2,112.5	2,112.5	2,106.2	2,151.7
Kentucky	473.7	418.1	502.3	512.7	527.3	564.3	507.1	532.9	564.3
Louisiana	46.1	47.6	47.6	52.8	57.7	60.7	60.7	113.6	113.7
Maine	4,196.7	4,409.8	4,319.6	4,723.4	4,916.4	8,353.0	4,755.0	5,011.3	4,847.6
Michigan	4,297.5	4,382.3	4,449.6	5,167.6	5,399.3	4,958.4	5,738.5	5,676.2	5,715.3
Minnesota	1,128.3	1,179.5	1,240.4	1,236.9	1,177.1	1,285.1	1,297.5	1,317.8	1,348.9
Mississippi	1,693.6	1,716.4	1,705.0	1,704.8	1,712.6	1,742.3	1,803.4	1,931.2	2,081.2
Missouri	8,899.8	9,912.3	8,843.7	9,412.5	9,703.6	10,595.3	11,046.3	11,001.4	11,380.7
Montana	106.8	163.0	181.1	142.0	148.7	167.1	200.1	280.2	280.7
Nebraska	2,148.6	2,383.8	2,656.8	3,081.5	3,277.9	3,283.1	3,360.0	3,677.1	3,359.8
Nevada	2,259.5	2,474.1	2,783.0	2,683.7	2,675.6	4,013.5	3,056.9	3,242.8	3,252.8
New Hampshire	6,015.5	6,446.6	7,227.5	7,465.6	7,704.2	8,065.3	8,402.6	8,775.1	9,122.4
New Mexico	23.2	22.8	25.6	22.4	71.5	45.0	31.2	35.0	34.3
New York	4,258.1	4,572.1	4,973.2	5,036.2	5,472.0	5,491.8	5,767.3	6,158.4	6,413.8
North Carolina	142.0	131.8	186.7	184.3	168.5	198.6	142.2	135.2	113.9
North Dakota	381.0	411.2	410.7	429.5	504.4	521.6	671.7	679.5	685.8
Ohio	357.0	320.6	331.4	341.4	366.8	373.0	368.8	358.2	398.5
Oklahoma	19,294.9	19,210.1	19,598.1	18,231.1	21,035.7	21,036.5	19,898.0	19,285.2	37,029.3
Oregon	2,087.6	2,184.1	2,621.4	2,605.1	2,631.2	2,976.5	2,942.0	2,950.3	2,991.6
Pennsylvania	539.1	582.2	599.7	599.7	185.6	289.3	289.3	296.1	286.1
Puerto Rico	920.0	916.5	974.5	974.5	816.1	942.8	950.3	944.3	956.3
South Carolina	2,692.4	2,687.4	2,734.9	2,737.3	2,965.5	3,243.7	3,243.7	3,351.9	3,395.7
South Dakota	2,170.4	2,432.2	2,561.7	2,685.3	2,826.0	2,923.8	2,977.5	2,956.9	2,989.9
Tennessee	1,958.7	1,923.9	1,863.6	2,097.1	2,154.8	2,253.1	2,273.4	2,302.9	2,383.9
Texas	13,179.4	13,736.9	14,454.8	13,312.8	12,744.1	13,336.7	18,413.2	15,157.1	17,428.6
Utah	1,142.9	1,029.1	1,154.1	1,352.3	1,568.9	1,570.5	1,564.7	1,727.7	1,730.4
Vermont	3,498.7	3,726.4	3,804.0	3,946.3	3,900.1	4,173.4	4,248.8	4,476.5	4,697.1
Virginia	14,863.9	15,058.3	15,477.6	18,017.7	22,451.1	22,451.1	18,739.9	18,735.1	24,796.9
Washington	1,265.6	1,137.2	1,152.1	1,146.3	1,234.4	1,359.8	1,264.1	1,353.6	1,451.3
West Virginia	1,909.8	1,952.5	2,000.1	1,978.6	2,094.9	2,215.3	2,183.1	2,732.5	2,354.5
Wisconsin	5,873.9	6,502.0	6,514.5	6,068.0	6,608.8	6,914.3	7,515.5	7,453.6	8,641.1
Wyoming	226,532.7	238,458.3	242,315.7	252,495.0	263,050.6	278,849.0	287,690.5	295,473.1	330,348.4
TOTAL									

A recreation visitor day (AVD) is a statistical reporting unit consisting of 12 visitor hours. A visitor hour is the presence of a person on an area of land or water for the purpose of engaging in one or more recreation activities during a period of time aggregating 60 minutes.

RECREATION WILDERNESS USE
FROM 1988 TO 1994
(THOUSANDS)

	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
Alabama	23.6	21.2	29.7	30.5	30.5	31.6
Alaska	548.4	781.8	798.5	797.0	798.1	816.3
Arizona	494.5	567.4	564.4	620.9	717.7	733.6
Arkansas	28.7	30.6	36.3	38.8	39.1	41.8
California	2,192.6	2,127.4	2,156.7	2,584.4	2,240.9	2,573.0
Colorado	1,467.2	1,273.7	1,228.2	1,383.5	1,381.7	1,403.6
Florida	32.3	35.3	28.0	28.0	28.0	28.6
Georgia	81.1	91.3	88.2	100.2	103.1	101.8
Idaho	526.1	671.8	712.4	703.8	690.9	955.0
Illinois	0.0	0.0	43.0	30.6	26.4	183.0
Indiana	30.1	31.6	31.6	31.6	30.5	30.5
Iowa	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	0.0	0.0	0.0	0.0	0.0	0.0
Kentucky	53.8	49.8	24.6	25.1	25.1	25.2
Louisiana	0.0	5.0	5.0	6.0	6.0	6.0
Maine	0.0	0.1	0.1	0.5	11.5	11.5
Michigan	33.1	73.6	98.8	103.4	108.0	111.0
Minnesota	1,069.1	1,263.6	1,272.6	1,404.0	1,385.0	1,385.0
Mississippi	0.0	15.2	16.2	17.1	17.0	17.5
Missouri	46.4	54.3	54.9	57.6	58.3	59.3
Montana	628.1	704.8	768.1	764.9	773.1	848.1
Nebraska	2.9	1.3	1.1	1.7	1.8	2.4
Nevada	16.6	139.3	227.3	261.2	267.8	281.0
New Hampshire	112.8	116.0	116.0	116.9	117.9	117.9
New Mexico	467.2	242.3	542.7	603.9	529.7	519.4
New York	0.0	0.0	0.0	0.0	0.0	0.0
North Carolina	95.1	85.3	123.6	129.8	262.7	268.1
North Dakota	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	0.0	0.0	0.0	0.0	0.0	0.0
Oklahoma	802.3	3.1	717.8	679.7	500.1	1,003.8
Oregon	1.4	2.0	2.2	2.3	2.8	3.1
Pennsylvania	0.0	0.0	0.0	0.0	0.0	0.0
Puerto Rico	0.0	0.0	0.0	0.0	0.0	0.0
South Carolina	2.4	8.4	11.1	11.2	11.3	11.4
South Dakota	12.7	13.9	15.8	20.8	23.7	12.9
Tennessee	61.3	59.2	64.0	46.1	45.6	45.6
Texas	6.4	9.5	10.9	11.0	9.1	9.1
Utah	499.3	521.2	513.0	497.9	472.8	453.9
Vermont	24.8	30.1	23.9	20.2	20.9	21.3
Virginia	76.8	89.7	83.6	84.7	85.0	87.1
Washington	1,495.3	1,371.0	1,371.1	1,142.7	1,089.7	891.1
West Virginia	72.6	71.1	223.9	53.6	47.6	53.1
Wisconsin	11.4	16.4	15.5	17.7	17.5	17.6
Wyoming	757.1	757.6	760.9	859.6	713.5	709.1
TOTAL	11,769.5	11,571.7	12,784.8	13,272.0	12,692.6	13,889.7

Regional Demand and Supply Projections for Outdoor Recreation

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INTRODUCTION

The Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), requires the USDA Forest Service to conduct an assessment of national level economic trends in renewable resources, including outdoor recreation, every 10 years. The 1989 RPA Assessment of Outdoor Recreation and Wilderness (Cordell and others 1990) provided national estimates and projections of the demand for and supply of recreation trips for 31 activities.² National-level models, however, can obscure important regional differences in recreation

preferences, travel behavior, population diversity and growth trends, demand trends, and availability of opportunities. Regional differences in recreation demands and trends also can have important implications for planning and programming at regional and subregional levels. This study, an issue analysis for the 1993 Update of the 1989 RPA Assessment, was designed to provide regionally disaggregated descriptions and projections of possible future recreation consumption and of the supply of recreation opportunities. The four regions of interest were the same as those defined for the 1989 RPA Assessment: North, Pacific Coast, Rocky Mountains and Great Plains (hereafter shortened to "Rocky Mountains"), and South (fig. 1).

²Estimates and projections of wildlife and fish recreation were reported in Flather and Hoekstra (1989); however, this report includes the activity "wildlife observation."

Forest Service Regions and Assessment Regions



Figure 1.—Forest Service Regions and Assessment Regions.

STUDY OBJECTIVES

The principal objectives for the recreation resource opportunity portion of this study were to update key resource data used in the 1989 RPA Assessment, and to develop region-specific recreation opportunity effectiveness ratings. These objectives update measures of the effective supply of available outdoor recreation opportunities, and reflect regional differences in resource availability.

The primary objective of the recreation activity analysis was to adapt all projection models to regional bases. Two additional recreation activities not included in the 1989 RPA Assessment — sailing and snowmobiling — were modeled for the 1993 Update.

THEORETICAL BACKGROUND

DEMAND AND SUPPLY OF TRIPS

Research has shown that one appropriate conceptual model for studying recreation demand and supply is that of household trip production (Bockstael and McConnell 1981, Cordell and Bergstrom 1991). It is widely accepted that the most appropriate measurement unit for recreation demand analyses is the recreation trip (McConnell 1975, Cordell and Bergstrom 1991). Typically, trips are not traded in traditional economic markets. Instead, recreating households are both the producers and consumers of recreation trips. In the joint production/consumption process, households combine their time, skills, and knowledge with market inputs and existing recreation opportunities. Thus, for the household production model, both supply and demand of recreation trips are determined from the household's perspective (Becker 1965, Bockstael and McConnell 1981).

A primary objective of the Forest Service's RPA Assessment of Outdoor Recreation is to compare projected demand and supply of recreation trips. The supply side is represented by projected trends in trip production and consumption at future points in time, given expected constraints on land, water, and other resources available for recreation (Cordell and Bergstrom 1991). As resource availability changes, so will average trip prices, increasing as resources become more scarce. In this study, the projected "supply" of trips is synonymous with the projected number of trips that are expected to be produced and consumed. These projections have been labeled the "expected supply" of trips (Cordell and Bergstrom 1991).

Future demand for recreation trips is measured by the number of trips households would take if the future trip costs remain unchanged and resource availabilities are unconstrained. This measure, termed "maximum preferred demand" (Cordell and Bergstrom 1991), is interpreted as the number of trips households would prefer to take if trip costs remained constant into the future relative to the base year, 1987. Here, resource opportunities are assumed to grow or contract as necessary without constraint to meet changes in use and population so that trip cost and quality remain constant.

Although maximum preferred demand and expected supply both are predicted future consumption scenarios, the difference lies in the assumptions about future trip cost and recreation opportunity. Maximum preferred demand holds trip prices constant at the base year (1987) level, which, in turn, means that recreation resource availability is essentially unconstrained. Maximum preferred demand answers the question, "How many activity trips would American households demand given no change in their per trip cost?" Expected supply, in contrast, leaves trip prices unconstrained, but constrains the amount of resource based on an extension of recent past trends for 12 different recreation resource environments. For some resource environments, the trend indicates future growth; for others, it indicates decline. Expected supply answers the question, "How many activity trips would American households produce and consume if resources change at the same rate as recent past trends?"

For specified future years, projections of expected supply and maximum preferred demand are computed and compared. A "gap" or shortage occurs where projected demand for a specified year exceeds projected supply (Cordell and others 1990). Such a gap indicates that resource or cost constraints prohibit households from producing as many recreation trips as they would prefer to produce, if the relative availability of resources was unconstrained and trip costs unchanged from the base year condition. Reductions in the amount of resources available for recreation is a major factor determining costs of producing trips, primarily because households must travel greater distances to recreate or face reduced quality from congested sites.

Gaps are largest for those activities and regions where both recreation resource availabilities are projected to decline, thus reducing expected supply, and the effects of changes in population, income, and other household characteristics are projected to be relatively large, thus driving up maximum preferred demand. When the

projected supply equals or exceeds the projected demand, households will produce as many trips as they prefer, and no gap results. Gaps typically are minimal to nonexistent where the projected rate of resource growth is increasing enough to keep pace with increases in population and income.

RECREATION OPPORTUNITY INDEX

The Effective Recreation Opportunity Set (EROS) index is a measure of the general availability of recreation opportunities, and can be used in models of household demand and consumption of recreation trips (English and Cordell 1993). Common measures of recreation resources, such as raw facility counts or facilities per capita, have been shown to be inadequate (Harrington 1987). Economic concepts of recreation supply (Clawson 1984, Harrington 1987) are difficult to calculate empirically. Opportunity indices are effective measures of the joint spatial distribution of recreation opportunities and households (Fesenmaier and Leiber 1987; Kim and Fesenmaier 1990). EROS indices are based on this above research, and particularly on Harrington's (1987) 'effective

price' measure, and opportunity indices. A separate EROS index was calculated for each of the 12 recreation environments identified by Cordell and others (1990) for the 1989 RPA Assessment, four each within land, water, and snow and ice resources (table 1).

The household production model shows that recreation resources are one of several inputs to trip production. Households do not "buy" a site; but, they do pay a cost to acquire its use. Harrington's (1987) 'effective price' measures a recreation site's availability to a household. Effective price includes entry fees, travel costs in both money and time, and congestion costs in both queuing time and experience quality. Travel costs are the primary determinant of site availability, are specific to an origin-destination pair, and are assumed to increase with distance. Sites beyond some threshold distance become too expensive to use. Threshold distances vary by recreation setting (Cordell and English 1985). More specifically, threshold distances vary by activity. For example, a household may be willing to drive 10 miles or less to go sledding but would willingly travel several hundred miles for downhill skiing. However, the EROS indices are not activity specific, instead, they correspond to more general recreation environments or settings.

Trip quality declines as the number of users at a site increases, because of congestion and queuing (Harrington 1987). Converting quality decline to an equivalent price variation allows congestion to be treated as a cost. Congestion costs depend on the total number of people at the site. Numbers of users at a site depends on the location and size of population centers and other recreation sites within the appropriate threshold distance (Fesenmaier and Leiber 1987; Kim and Fesenmaier 1990).

EROS indices include travel costs and congestion components (English and Cordell 1993). County-level resolution for population and resource data drive the calculation method. Distance separating spatial units (counties) provides proxies for mean travel distance separating the units.

METHODS

RECREATION TRIP DEMAND AND SUPPLY

The 1993 Update used the same set of aggregate data that was used in the 1989 Assessment. The same methods used to develop national projections for the 1989 Assessment were applied to each of the four regions. The main differ-

Table 1.—Twelve types of recreation environments used as the basis for effective recreation opportunity set (EROS) indices.

Category	Description
Land	
EROS 1	Wilderness and remote backcountry, 3 or more miles from roads
EROS 2	Extensive undeveloped areas near roads, 1/2 to 3 miles
EROS 3	Roaded and partially developed areas, within 1/2 mile of roads
EROS 4	Developed sites
Water	
EROS 5	Wild and scenic or other remote lakes and streams, 3 or more miles from roads
EROS 6	Lakes or streams near roads, 1/2 to 3 miles
EROS 7	Partially developed lakes or streams with roads or crossings, within 1/2 mile of roads
EROS 8	Developed water sites
Snow/Ice	
EROS 9	Wilderness and other remote backcountry, 3 miles or more from roads
EROS 10	Extensive undeveloped areas near roads, 1/2 to 3 miles
EROS 11	Roaded and partially developed areas, within 1/2 mile of roads
EROS 12	Developed winter sports sites

Source: Cordell and others (1990)

ence between the 1989 RPA Assessment and the 1993 RPA Update was that projections of two key independent variables—population and household income—varied by region in this report. A brief summary of the model specifications, data sources, and theoretical background used in the 1989 Assessment (and repeated for the 1993 RPA Update) is presented here. Cordell and Bergstrom (1991) provide a more complete discussion.

Data

Individual survey data from the Public Area Recreation Visitor Study (PARVS) were aggregated to multi-county trip-generating regions containing at least 90 individual responses (Cordell and Bergstrom 1989). PARVS was a cooperative research effort involving more than a dozen federal and state natural resource agencies. Recreationists were interviewed at more than 250 public recreation areas nationwide. Aggregate, rather than household, data were used, because of the RPA goal of analyzing broad, nationwide trends in outdoor recreation. About 26,000 individual responses were used to create 239 aggregate observations for the 1989 RPA Assessment modeling. For each multi-county re-

gion, a single representative county was chosen (fig. 2), based on being the home county of a majority of the individual responses, or if no county had a majority, proximity to the region's geographic center. Recreation behavior was assumed to be homogeneous within a region; so, trips from all cases in the multi-county region were used to construct the dependent variable. For the 1993 Update, each representative county was assigned to the appropriate region.

For each activity, the number of trips per capita for all respondents within a region was multiplied by the representative county's population over age 11, to estimate the dependent variable, total annual activity k trips generated by the representative county. Projections of future demand and supply were calculated by inserting expected future values for independent variables into the estimated regression model equations and solving. For the 1993 RPA Update, regional estimates of population and household income provided by the Bureau of Economic Analysis (U.S. Department of Commerce 1991) were inserted in place of national estimates derived from U.S. Census Bureau data. This region-specific information assured that variation would exist between the regional projections of recreation demand and supply.



Figure 2.—Representative counties used in RPA Assessment modeling.

Model Specification

Supply

The supply of outdoor recreation trips is defined as the number of trips that households would actually produce/consume under household production theory. The general model of recreation consumption is:

$$\text{ATRIPS} = f(\text{SO}, \text{Z}, \text{S}, \text{RO}_k, \text{H}) \quad (1)$$

where

- ATRIPS = annual number of trips for activity k consumed by a community,
- SO = substitute recreation opportunities available to a community
- Z = community population 12 years old and older
- S = suitability of sites used for activity k
- RO_k = recreation opportunities available to a community for activity k
- H = community characteristics

Salient community characteristics shown in past research to be related to recreation consumption include income, age, and rural/urban residence. Measures of these variables were: percent of households with annual income of \$30,000 or more, percent of the population that was between the ages of 18 and 32, and percent of the population living on farms. The equation estimated for the 1989 Assessment and used in the 1993 Update analyses was:

$$\begin{aligned} \ln(\text{TRIPS}_{ki}) = & \beta_0 + \beta_1 \text{INC345}_i \\ & + \beta_2 \text{PCT18TMD}_i + \beta_3 \text{CCPOP86}_i \\ & - \beta_4 \text{PCTFARM}_i - \beta_5 \text{SUBEROS}_{ki} \\ & + \beta_6 \text{FACILITY}_{ki} * \text{SUIT}_{ki} \end{aligned} \quad (2)$$

where

- TRIPS_{ki} = natural log of annual activity k trips consumed by representative county i ,
- SUBEROS_{ki} = index of recreation opportunities available to representative county i which are substitutes for activity k ,
- CCPOP86_i = representative county population 12 years old and older,

- SUIT_{ki} = mean suitability rating of all recreation sites visited by representative county i for activity k ,
- FACILITY_{ki} = quantity of recreation facilities relevant to activity k and available to representative county i ,
- INC345_i = percent of households in representative county i with annual income of at least \$30,000,
- PCT18TMD_i = percent of representative county i population age 18 to 32,
- PCTFARM_i = percent of representative county i population living on farms

Substitute recreation opportunities (SUBEROS) and recreation resources and facilities (FACILITY) differed depending on the recreation activity being modeled; each activity model contained at least one unique facility or resource variable (table 2). Generally, resource variables were weighted by their suitability for the particular activity. A few resources, such as the number of outdoor swimming pools for outdoor pool swimming, and hourly ski lift capacity for downhill skiing, were perfectly suited to the respective activity and, therefore, were unweighted.

Each activity model was assigned a substitute recreation opportunities index variable (SUBEROS) coinciding with the environment in which the activity predominantly occurs. For example, backpacking was assigned SUBEROS1, wilderness and other remote lands, because most backpacking trips take place in wilderness and other extensive roadless areas. The SUBEROS index is the mean of those Effective Recreation Opportunity Set (EROS) indices whose resource categories are reasonable substitutes for the environment of the target activity. EROS indices are described in detail later in this report.

Community consumption functions estimated at the national level are shown in table 3. These are the consumption models estimated for the 1989 RPA Assessment that were used to predict expected supply (Cordell and others 1990; Cordell and Bergstrom 1991). Model coefficients were then used in deriving regional projections of the expected supply of recreation trips for the 1993 RPA Update.

Differences between 1989 RPA Assessment and 1993 RPA Update.—For the 1993 RPA Update, equations were not re-estimated for each region. To retain consistency with the 1989 RPA results, the same intercepts and coefficients estimated in 1989 were applied

Table 2.--Recreation resource and facility variables used in activity consumption functions.

Activity	R01	R02
	Land	
Developed camping	Federal road mileage converted to acres and federal and state land located within 1/2 mile of a road*	—
Picnicking	Federal and state land located within 1/2 mile of a road, and state forest land open to recreation*	—
Sightseeing	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road*	—
Family gatherings	Federal road state, local and private campgrounds*	—
Pleasure driving	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road	—
Visiting historical sites	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road*	—
Attending events	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road*	—
Visiting museums	Federal road mileage (except for U.S. Army Corps of Engineers and Tennessee Valley Authority) converted to acres, National Recreational Trail mileage open to motorcycles converted to acres, and federal and state land located within 1/2 mile of a road*	—
Off-road driving	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road*	—
Biking	Federal road mileage converted to acres, federal and state land located within 1/2 mile of a road, and state forest acres open to recreation*	—
Running/jogging	Federal road mileage converted to acres, federal and state land located within 1/2 mile of a road, and state forest acres open to recreation*	—
Walking	Federal road mileage converted to acres, and federal and state land located within 1/2 mile of a road*	—
Cutting firewood	Federal land located within 1/2 mile of a road, federal and state land located within 1/2 to 3 miles of a road, and acres of nonindustrial forest land open to recreation, both leased and nonleased*	—
Collecting berries	Industrial and nonindustrial forest lands*	—

Table 2 --(continued)

Activity	R01	R02
Visiting prehistoric sites	Federal road mileage converted to acres; federal and state land located within 1/2 mile of a road; federal and state land located within 1/2 to 3 miles of a road; and rural transportation use acres*	—
Photography	Federal and state land located within 1/2 mile of a road, and state forest acres open to recreation*	—
Day hiking	Federal and state land located within 1/2 mile of a road, federal and state land located 1/2 to 3 miles of a road, and federal wilderness*	—
Horseback riding	Federal and state land located within 1/2 to 3 miles of a road, and nonwilderness land more than 3 miles from a road	Miles of National Recreational Trails open to horseback riding
Nature Study	Acres of water in river/streams up to 660 feet wide, and acres of flat-water bodies	Federal and state land located within 1/2 mile to 3 miles of a road, nonwilderness land located over 3 miles from a road, and federal wilderness acres*
Backpacking	Federal and state land located within 1/2 to 3 miles of a road, nonwilderness land located over 3 miles from a road, and federal wilderness acres*	National Recreation Trail state park trail miles*
Primitive camping	Federal and state land located within 1/2 mile of a road, and state forest acres open to recreation*	—
Wildlife observation	Federal and state land located within 1/2 mile of a road, federal and state land located within 1/2 to 3 miles from a road, nonwilderness land located more than 3 miles from a road, federal wilderness acres, The Nature Conservancy acres, and state fish and game land*	Acres of water in rivers/streams up to 660 feet wide, acres of flat-water bodies, and acres of federal water bodies open to recreation*
Water		
Pool swimming	Public and private swimming pools, state parks with some swimming facilities, and tourist accommodations	—
Motorized boating	Acres of flatwater bodies and acres of federal water open to recreation	Number of boat ramps*
Water-skiing	Acres of flatwater bodies and acres of federal water open to recreation*	—
Rafting/tubing	Miles of federal wild and scenic rivers, miles of rivers designated by states as being significant for historic, cultural, scenic or recreational reasons, and miles of Bureau of Land Management recreation rivers*	Indicator variable for presence of mountains (0=no mountains; 1=mountains)*

Table 2--(continued).

Activity	R01	R02
Canoeing/kayaking	Acres of flatwater bodies, and acres of water in river/streams up to 660 feet wide*	Canoe rental firms and canoe outfitters*
Rowing/paddling, etc.	Acres of flatwater bodies, acres of water in rivers/streams up to 660 feet wide, and acres of federal water bodies open to recreation*	—
Stream/lake/ocean swimming	Federal developed swimming areas*	Miles of public ocean beach*
Sailing	Number of boat ramps*	—
Snow and Ice		
Downhill skiing	Daily ski-lift capacity	—
Cross-country skiing	Federal and state lands located within 1/2 mile of a road, federal and state lands located within 1/2 to 3 miles of a road, and acres of rural transportation use*	—
Snowmobiling	Federal and state lands located within 1/2 mile of a road, federal and state lands located within 1/2 to 3 miles of a road, and acres of rural transportation use*	—

*Resource and facility variables are weighted by the average suitability of sites used by a community for an activity. Average suitability was derived from responses to a survey sent to site managers in which they were asked to rate suitability of the site, on a 10-point scale, across 16 representative outdoor recreational activities.

Source: Cordell and Bergstrom (1989).

across the four RPA regions for all activity models. Independent variable means were calculated by region, to estimate the aggregate regional expected supply of recreation trips. To do this, the 239 representative counties were disaggregated by region, such that each region had a representative sample of counties containing annual recreation trip information. These annual trips could be taken anywhere, either within the region or to other regions. For each region, trips consumed in 1987 served as the base year for an index of growth to the year 2040. Therefore, mean values of the independent variables in each region also were a base from which to multiply expected percentage changes in these variables for each of five planning years out to 2040. The primary difference in the analyses between the 1989 RPA Assessment and the 1993 RPA Update was that the latter included regional projections of the rate of growth

of population and household income in its calculations of expected supply, whereas the 1989 RPA Assessment used national projections of change in all of the independent variables in its calculations of expected supply. A limitation of the 1993 RPA Update is that no regional projections of change for the other independent variables—age, urban/rural residence, and resources/facilities—were available. For those variables the same national projections of rate of change were applied uniformly across the four regions.

Demand

In the 1989 RPA Assessment, demand for recreation trips was estimated based on the behavior and characteristics of the 239 representative counties. Recreation trip behavior was available from PARVS data, and

Table 3 —Estimated community-level consumption functions for outdoor recreation activities.

Parameter estimates (standard error)										
Activity	INTERCEP	INC345	PCT18TMD	CCPOP86	SUBEROS	PCTFARM	RO1	RO2	N	Adjusted F-value R ²
Land										
Developed camping	8 253* (.750)	0 065* (.010)	0 084* (.033)	0 0000012* (1.34 E-07)	-0 060* (.014)	—	0 0000047* (.0000014)	—	239	49 488 .50
Picnicking	8 765* (.718)	051* (.009)	118 (.032)	0000012* (1.30 E-07)	-071* (.014)	—	0000044* (.00001)	—	239	54 607 .53
Sightseeing	10 885* (.633)	024* (.009)	108* (.027)	0000010* (1.12 E-07)	-045* (.012)	-0 189* (.018)	0000019* (.000001)	—	239	80 838 .67
Family gatherings	8 604* (.777)	062* (.010)	087* (.037)	0000013* (1.41 E-07)	-060* (.013)	—	00024* (.0001)	—	239	57 467 .54
Pleasure driving	9 579* (.727)	061* (.01)	103* (.032)	0000012* (1.32 E-07)	-058* (.014)	—	0000036* (.000001)	—	239	51 895 .52
Visiting historical sites	8 755* (.663)	039* (.009)	135* (.029)	00000012* (1.18 E-07)	-054* (.012)	-205* (.019)	0000032* (.000002)	—	239	87 398 .68
Attending events	7 353* (.761)	068* (.010)	123* (.034)	0000012* (1.37 E-07)	-081* (.014)	—	0000051* (.000002)	—	239	56 683 .54
Visiting museums	7 079* (.780)	079* (.010)	129* (.036)	0000012* (1.44 E-07)	-067* (.015)	—	0000046** (.000002)	—	239	57 763 .54
Off-road driving	8 070* (1 155)	037* (.015)	099*** (.052)	0000012* (2.10 E-07)	-027 (.026)	—	0000041 (.000008)	—	239	14 905 .23
Biking	7 238* (.874)	098* (.011)	132* (.039)	0000013* (1.58 E-07)	-042* (.016)	—	0000027* (.000002)	—	239	53 677 .52
Running/jogging	6 913* (1.362)	103* (.018)	122** (.061)	0000013* (2.46 E-07)	-070 (.026)	—	0000050* (.000002)	—	239	25 164 .34
Walking	8 647* (.777)	075* (.010)	134* (.035)	0000013* (1.40 E-07)	-062* (.014)	—	0000039* (.000001)	—	239	58 998 .55
Cutting firewood	9 186* (.682)	018** (.009)	112* (.030)	00000074* (1.21 E-07)	-043* (.015)	—	000012* (.000004)	—	239	53 924 .57
Collecting berries	8 255* (.796)	019*** (.011)	134* (.034)	00000092* (1.42 E-07)	032** (.013)	-219** (.023)	000022* (.000006)	—	239	55 490 .58
Visiting prehistoric sites	8 736* (.691)	021** (.010)	071** (.030)	0000011* (1.23 E-07)	-033 (.013)	-230* (.020)	0000027* (.000002)	—	239	77 633 .66
Photography	7 618* (.834)	085* (.011)	114* (.037)	0000012* (1.50 E-07)	-084* (.017)	—	000055* (.00001)	—	239	59 638 .55
Day hiking	8 889* (.681)	054 (.009)	116* (.029)	00000019* (1.21 E-07)	-065* (.016)	-194* (.016)	000024* (.000006)	—	239	97 476 .71
Horseback riding	8 780* (1 02)	050* (.014)	033 (.047)	0000010* (1.86 E-07)	-088* (.022)	—	000041* (.00001)	.00059* (.0003)	239	22 402 .35
Nature study	5 938* (.925)	063* (.012)	158* (.042)	0000011* (1.69 E-07)	-068* (.021)	—	00706** (.003)	000021** (.000008)	239	30 993 .43
Backpacking	6 030* (1.467)	095* (.020)	081 (.067)	0000012* (2.66 E-07)	-105* (.035)	—	000062* (.00001)	000000076*** (4.44 E-08)	239	21 337 .34
Primitive camping	7 320* (.788)	056* (.010)	094* (.035)	0000011* (1.4 E-07)	-076* (.018)	—	000054* (.00001)	—	239	45 018 .48
Wildlife observation	7 910* (.729)	068* (.010)	106* (.033)	0000011* (1.33 E-07)	-066* (.017)	—	000026* (.000007)	.00677* (.0022)	239	49 075 .55

Table 3. —(continued).

Parameter estimates (standard error)

Activity	INTERCEP	INC345	PCT18TMD	CCPOP86	SUBEROS	PCTFARM	RO1	RO2	N	Adjusted F-value	R ²
Water											
Pool swimming	3.091* (1.199)	0.090* (.012)	0.058** (.036)	0.0000010* (1.43 E-07)	-0.023* (.014)	—	0.00143* (.0005)	0.109* (.015)	239	58.521	.59
Motorized boating	9.780* (833)	.032* (.011)	.076** (.037)	0.000010* (1.44 E-07)	-.075* (.013)	—	.00120* (.0003)	.000219** (.00009)	239	31.265	.43
Water-skiing	8.229 (.903)	.045* (.012)	.080** (.040)	0.000011* (1.62 E-07)	-.054* (.015)	—	.00144* (.0004)	—	239	29.446	.37
Rafting/tubing	-12.760* (5.004)	.183* (.066)	.429*** (.223)	0.000012* (9.20 E-07)	-.041 (.094)	—	.000384* (.0001)	.9553** (.431)	239	6.431	.12
Canoeing/kayaking	5.007* (.958)	.072* (.013)	.140* (.043)	0.000010* (1.73 E-07)	-.038** (.015)	—	.01052* (.004)	.00158* (.0006)	239	33.973	.45
Rowing/paddling, etc.	6.392* (.919)	.066* (.012)	.123* (.041)	0.000010* (1.66 E-07)	-.062* (.015)	—	.000739** (.0003)	—	239	32.137	.40
Stream/lake swimming	9.258* (.827)	.039* (.011)	.104* (.030)	0.000011* (1.41 E-07)	-.066* (.013)	—	.000876* (.003)	.000622* (.0002)	239	43.275	.52
Sailing	3.618*** (1.897)	.117* (.025)	.112 (.084)	0.000016* (3.30 E-07)	-.030 (.030)	—	.000593* (.000008)	—	239	24.238	.33
Snow and ice											
Downhill skiing	11.455* (2.146)	0.104* (.023)	-.0162** ^a (.068)	0.0000011* (2.74 E-07)	0.0013** (.0005)	-.0256* (.046)	.001086* (.0003)	—	239	41.848	.52
Cross-country skiing	7.570** (4.061)	.187* (.043)	-.248** ^a (.124)	0.000014* (5.06 E-07)	.0025* (.001)	—	.000033* (.000007)	—	239	23.268	.32
Snowmobiling	4.963 (4.730)	.093*** (.050)	-.129 ^a (.145)	0.00000049 (5.90 E-07)	.0020*** (.001)	—	.000040* (.000008)	—	239	10.688	.17

*Significant at 0.01 level; **Significant at 0.05 level; ***Significant at 0.10 level

^aFor these activities, age variable was MEDAGE = median age of representative county population.

Source: Cordell and Bergstrom (1989), table 3, page 20

representative county characteristics were obtained from the Bureau of the Census' City and County Databook. The functional form of the community-level recreation demand model (Cordell and Bergstrom 1991), was:

$$\text{ATRIPS}^D = f(P, S, \text{SO}, Z, H) \quad (3)$$

where

ATRIPS^D = annual trips demanded for activity k by a community

P = cost or price of trips for activity k

S = suitability of sites used for activity k

SO = substitute recreation opportunities available to a community

Z = population 12 years old and older
H = characteristics

The estimated model for demand was:

$$\begin{aligned} \ln(\text{TRIPS}_{kj}) = & \beta_0 - \beta_1 \text{PRICE}_{kj} + \beta_2 \text{INC345}_i \\ & + \beta_3 \text{PCT18TMD}_i + \beta_4 \text{CCPOP86}_i \\ & - \beta_5 \text{PCTFARM}_i - \beta_6 \text{SUBEROS}_{ij} \\ & + \beta_7 \text{SUIT}_{ij} \end{aligned} \quad (4)$$

where TRIPS_{kj} is the natural log of annual trips for activity k demanded from representative county i to site j, PRICE_{kj} is the cost of trips for activity k from represen-

tative county i to site j , $SUIT_{ij}$ is the suitability of site j for activity k , and all other variables are as defined for the consumption function, eq. [2].³ Table 4 lists the national estimated community demand coefficients. The trip price coefficients and the regional trip price means were critical information in the calculation of maximum preferred demand (MPD) for each activity.

Differences between 1989 RPA Assessment and 1993 RPA Update.—MPD is the number of trips that households would prefer to consume, given constant trip costs and an unconstrained supply of recreation opportunities (Cordell and others 1990). Thus, MPD is a measure of recreation trip consumption similar to expected supply, but with different assumptions. The major difference is that MPD holds price constant at the base year (1987) level, while expected supply allows price to rise to the equilibrium point where the quantity of trips demanded is equal to the quantity of trips supplied. The MPD quantity of trips, therefore, results from shifts in demand and a fixed trip price. Further, no constraints are placed on recreation resources and facilities; a decrease in these would drive up trip costs. MPD uses current consumption of trips (1987) as the base-year starting off point, as does expected supply. The 1993 RPA Update improved on the MPD projections in the 1989 RPA Assessment by using regional calculations of current trip consumption, and regional trip price beta coefficients and means rather than national. A projection of MPD was calculated for each of the recreation activities in the four RPA regions, indexing the projected change back to the base year level of 100.

Projections

Expected Supply

Current regional trip consumption estimates provide a base for regional consumption projections, which are indexed to current levels. The indices are multiplied by an estimate of the actual number of trips taken for a given activity by the entire assessment region. Trip estimates were calculated separately and are described later in this report.

³To estimate trip costs, an allocation index was devised to allocate the reported annual activity k trips, having no site information, to the PARVS sites that were used by residents of each representative county and that were suitable for that activity. Each activity, therefore, had a unique sample size because of different origin-destination combinations. For a more complete discussion of the trips allocation index, see Cordell and Bergstrom (1989).

Regional projections of recreation trip consumption (i.e., expected supply) followed the same methods used for the 1989 RPA Assessment national-level consumption projections. Expected future levels of all independent variables were determined for five planning years: 2000, 2010, 2020, 2030, 2040. The expected future values were derived from anticipated percentage changes which were applied to the base year mean values of the independent variables. The only exception is the substitute recreation opportunities variable, SUBEROS. This variable was held constant at the 1987 base year level throughout the planning horizon under the assumption that substitute recreation opportunities would neither increase nor decrease. Coefficients in the models were assumed to not change over time.

The same projected changes in recreation resource and facility variables that were used in the 1989 RPA Assessment were applied uniformly across the four regions. This is a recognized limitation of the 1993 RPA Update. Ideally, resource projections would reflect regional variation. Nonetheless, these projections represent best estimates of resource change based on extending recent past broad-based national trends into the future. Table 5 lists projected percentage changes in the 12 categories of recreation and wilderness resources and uses (Cordell and others 1990). Resource and facility variables from the 31 recreation consumption models were assigned the expected percentage change of the resource category in which they best fit. For example, the resource variable "backpacking land" occurs primarily in the resource category, "Wilderness and other Extensive Roadless Areas". This individual variable is expected to change at the same percentage rate as the resource category—9% decline by 2000, 15% decline by 2010, etc.

The combination of projected future values for the independent variables and estimated coefficients allows projections of recreation consumption to the year 2040 for each activity. Regional variation in the baseline values for the independent variables and in the expected future values of population and household income enable regional projections. A growth index is calculated for each of the five planning years with 1987 as the base level. Projections are expressed in percentage change from this base.

Maximum Preferred Demand

Regional MPD projections were developed in the same manner as the regional expected supply projections. The demand model functional form, eq. [3], was

Table 4.—Estimated community-level demand functions for outdoor recreation activities.

Parameter estimates (standard error)

Activity	INTERCEPT	PRICE _{ijk}	INC345 _j	PCT18TMD _j	CCPOP86 _j	PCTFARM _j	SUBEROS _{k1}	SUIT _{k1}	N	F-value	Adjusted R ²
Land											
Developed camping	4.503* (.330)	-0.018* (.0004)	0.075* (.004)	0.088* (.014)	0.0000011* (4.43 E-08)	— (.005)	0.122* (.016)	3161	509.337	.49	
Picnicking	4.882* (.400)	-.050* (.0011)	.073* (.005)	.136* (.016)	0.000014* (6.72 E-08)	— (.006)	.093* (.016)	2883	522.744	.52	
Sightseeing	7.016* (.248)	-.018 (.0003)	.029* (.003)	.081* (.010)	0.0000088* (3.30 E-08)	-0.180 (.007)	.204* (.010)	4538	954.731	.60	
Family gathering	3.902* (.273)	-.023* (.0004)	.078* (.003)	.131* (.011)	0.000011* (3.78 E-08)	— (.005)	.146* (.012)	4179	838.602	.55	
Pleasure driving	5.872* (.005)	-.036* (.001)	.076* (.005)	.077* (.017)	0.000013* (6.61 E-08)	— (.007)	.159* (.016)	2877	347.847	.42	
Visiting historic sites	6.780* (.303)	-.023* (.0005)	.024* (.004)	.088* (.013)	0.0000079* (4.12 E-08)	-.200* (.008)	.215* (.010)	3050	623.000	.59	
Attending special events	4.214* (.317)	-.029* (.0007)	.072* (.004)	.112* (.014)	0.000011* (4.77 E-08)	— (.005)	.142* (.015)	3307	501.783	.48	
Visiting museums	5.535* (.367)	-.023 (.0007)	.061* (.004)	.066* (.016)	0.000011* (5.39 E-08)	— (.006)	.183* (.012)	2749	376.924	.45	
Off-road driving	6.877* (.864)	-.044 (.004)	.013 (.011)	.083** (.036)	0.000016* (1.82 E-07)	— (.012)	.286* (.031)	800	55.331	.29	
Biking	3.488* (.386)	-.031* (.001)	.116* (.005)	.123* (.017)	0.000013* (6.20 E-08)	— (.006)	.120* (.015)	2998	434.239	.46	
Running/jogging	4.681* (1.100)	-.135* (.014)	.137* (.013)	.070*** (.047)	0.000021* (2.46 E-07)	— (.017)	.171* (.047)	843	67.158	.32	
Walking	5.001* (.310)	-.027* (.001)	.083* (.004)	.131* (.013)	0.000012* (4.70 E-08)	— (.005)	.147* (.012)	3534	581.972	.50	
Cutting firewood	6.820* (.784)	-.032* (.004)	.036* (.014)	.177* (.033)	0.0000075* (1.73 E-07)	.181* (.030)	-.024 (.011)	506	42.010	.36	
Collecting berries	5.556* (.800)	-.024* (.003)	.033* (.012)	.232* (.030)	0.0000074* (1.31 E-07)	.196* (.028)	.048 (.010)	579	58.246	.41	
Visiting prehistoric sites	7.595* (.441)	-.026* (.001)	.008 (.006)	-.012 (.019)	0.000012* (7.55 E-08)	-.215* (.012)	.175* (.007)	1935	220.036	.44	
Photography	2.967* (.357)	-.022* (.0009)	.094 (.004)	.122* (.015)	0.000012* (5.37 E-08)	— (.006)	.198* (.016)	3128	402.231	.44	
Day hiking	5.711* (.395)	-.039* (.001)	.064* (.005)	.108* (.016)	0.000010* (6.86 E-08)	— (.006)	.083* (.015)	2656	414.921	.52	
Horseback riding	4.498* (.431)	-.046* (.001)	.079* (.005)	.025 (.019)	0.000013* (7.72 E-08)	— (.007)	.223* (.017)	2688	316.176	.41	
Nature study	1.634* (.397)	-.029* (.0009)	.079* (.005)	.156* (.017)	0.000011* (5.84 E-08)	— (.007)	.176* (.018)	3272	341.182	.38	
Backpacking	3.237* (.515)	-.012* (.001)	.106* (.006)	-.006 (.022)	0.000013* (7.59 E-08)	— (.008)	.279* (.018)	2277	191.289	.33	
Primitive Camping	3.819* (.344)	-.029* (.0007)	.069* (.004)	.072* (.015)	0.000012* (5.20 E-08)	— (.006)	.236* (.013)	2946	501.580	.50	
Wildlife Observation	5.622* (.269)	-.022* (.0004)	.051* (.003)	.084* (.011)	0.0000089* (3.73 E-08)	-.166 (.007)	.181* (.004)	3940	712.564	.56	

Table 4.—(continued).

Parameter estimates (standard error)											
Activity	INTERCEPT	PRICE _{ijk}	INC345 _i	PCT18TMD _i	CCPOP84 _i	PCTFARM _i	SUBEROS _{ki}	SUIT _{ki}	N	F-value	Adjusted R ²
Water											
Pool swimming	3.136* (.891)	-0.036* (.002)	0.107* (.011)	0.241* (.041)	0.0000012* (1.41 E-07)	—	0.024 (.022)	—	857	131.410	.43
Motorized boating	6.280* (.596)	-.038* (.002)	.061* (.007)	.068* (.024)	.0000014* (1.00 E-07)	—	-.033* (.008)	0.155* (.019)	1537	176.174	.41
Water-skiing	4.575* (.590)	-.028* (.002)	.067* (.007)	.062* (.024)	.0000014* (9.56 E-08)	—	-.012 (.008)	.187* (.019)	1553	136.448	.34
Rafting/tubing	4.653* (.816)	-.033* (.002)	.064* (.009)	.064*** (.036)	.0000014* (1.28 E-07)	—	.006 (.012)	.300* (.030)	1379	96.158	.29
Canoeing/kayaking	1.285 (.442)	-.048* (.001)	.087* (.005)	.167* (.019)	.0000013* (7.61 E-08)	—	-.019* (.006)	.250* (.016)	2381	455.052	.53
Rowing/paddling, etc.	2.066* (.418)	-.024* (.001)	.074* (.005)	.124* (.019)	.000013* (7.39 E-08)	—	-.023* (.006)	.221* (.015)	2413	248.152	.38
Stream/lake swimming	6.100* (.399)	-.034* (.0007)	.057* (.005)	.077* (.017)	.0000011* (5.68 E-08)	—	-.035* (.006)	.183* (.013)	2678	521.61	.54
Sailing	-0.453 (.857)	-.028* (.0020)	.134* (.010)	.158* (.035)	.0000019* (1.44 E-07)	—	-.016 (.012)	.126* (.028)	1541	129.71	.33
Snow and Ice											
Downhill skiing	7.765* (2.43)	-0.031* (.005)	0.059** (.028)	0.135*** (.083)	0.00000037* (1.80 E-07)	-0.368* (.081)	0.001** (.0005)	—	138	22.706	0.49
Cross-country skiing	1.185 (1.08)	-.034* (.002)	.216* (.009)	-.130* (.033)	.0000015* (1.27 E-07)	—	.002* (.002)	.338* (.037)	2656	231.917	.34
Snowmobiling	-3.452* (0.787)	-.026* (.002)	.146* (.010)	.091* (.035)	.00000089* (1.41 E-07)	—	.172* (.009)	.095** (.042)	2664	157.859	.26

*Significant at 0.01 level. **Significant at 0.05 level. *** Significant at 0.10 level

Source: Cordell and Bergstrom (1989), table 1, page 17

specified nationally for each activity based on all of the origin-destination combinations in the PARVS data set. From the demand models, trip cost coefficients and the mean value of trip costs were used in a formula to calculate MPD from current trip consumption. MPD is the upper limit of trips that households would consume if the cost of a recreation trip was not allowed to increase and available opportunities for recreation were not a limiting factor. Future values of MPD, then, depend primarily on shifts in demand resulting from changes in other determinants, such as age, income, and population. Multiplying the projection indices by the base year number of trips produces an estimate of the absolute change in the total number of trips.

Estimates of Recreation Trips

In addition to projection indices of recreation trip consumption, the absolute number of current trips from each region for each activity was estimated. The estimate was the product of the following four values: (1) regional estimates of the 1987 population age 12 years and older, (2) the national percentage of the population at least 12 years old who participate in the activity, (3) the percentage of trips for the activity that occur away from home, and (4) mean annual activity trips per person, by region. Regional population estimates (1987) were developed from U.S. Census Bureau data. Regional estimates of population at least 12 years old are: North, 98.7

Table 5—Estimated future trends in land, water, and snow and ice resources and environments if recent trends (1970-1987) in amounts of resources available for outdoor recreation were to continue

Resources and environments	Projected percentage change from 1987				
	2000	2010	2020	2030	2040
Land					
Wilderness and other extensive roadless areas	-9	-15	-21	-26	-31
Undeveloped areas near roads	-12	-20	-28	-35	-41
Partially developed, roadless areas	-9	-15	-21	-26	-31
Intensively developed sites	8	15	22	29	37
Water					
Wild and remote lakes and streams	3	6	8	9	10
Lakes and streams near roads	-3	-4	-6	-8	-10
Lake and stream sites adjoined by roads	8	15	22	29	37
Intensively developed water sites	12	23	34	47	61
Snow and ice					
Wilderness and other roadless areas	-9	-15	-21	-26	-31
Undeveloped areas near roads	-12	-20	-28	-35	-41
Partially developed, roadless areas	-9	-15	-21	-26	-31
Intensively developed winter sports sites	17	28	36	43	49

Source: Cordell and others (1990)

million; Pacific Coast, 29.6 million; Rocky Mountains, 15.4 million; South, 64.6 million. Participation estimates were taken from the 1982-1983 Nationwide Recreation Survey (U.S. Department of the Interior 1986). Proportion of trips away from home were estimated by an expert panel of researchers. "Away from home" denotes any trip requiring motorized travel from an individual's permanent residence. Mean annual activity trips per person by region were calculated from PARVS data. Projected recreation consumption indices together with estimates of base year trips provide a projection of the expected supply of activity trips in each region (i.e., the equilibrium number of trips consumed where no shortages or surpluses of recreation supply occur).

Table 6—Key variables identified for updating in the National Outdoor Recreation Supply Information System (NORSIS) database for the 1993 RPA Assessment Update

Variable	Description
FEDWILD *	Acres of federally designated wilderness areas
FEDOVER3 *	Acres of federal lands > 3 miles from roads
STWILDS	Acres of state designated wilderness areas
SPOVER3	Acres of state park lands > 3 miles from roads
FEDHALF3	Acres of federal lands 1/2 to 3 miles from roads
NTFOOTMI *	Miles of National Recreation Trails (NRT) for hiking
NTHORSMI *	Miles of NRT's for horseback use
SPHALF3	Acres of state park lands 1/2 to 3 miles from roads
FEDINHLF	Acres of federal lands within 1/2 mile of roads
NTBIKEMI *	Miles of NRT available for bicycle use
NTMOTOMI *	Miles of NRT available for motorcycle use
FEDROAD1	Miles of roads on USFS, NPS and FWS lands
SFRECAC	Acres of state forest open for recreation
SPINHALF	Acres of state park lands within 1/3 mile of roads
FGLACRE	Acres of state fish and game lands
PLOPAC4	Acres of non-industrial, private (NIP) lands open to the public, free or fee, in tracts 500-2499 acres
PLOPAC5	NIP land acres open to public, in tracts of 2500+ acres
FORINDAC	Acres of forest industry owned lands
RURALT	Acres of rural, non-federal roads and railroads
PLOPAC23	NIP land acres open to public, in tracts 20-499 acres
FEDROAD2	Miles of COE and TVA roads
NUMRESRT	Number of commercial resorts
TRSIACCM	Number of tourist accommodation businesses
ZOOS	Number of zoos
GOLFCRSE	Number of public and private golf courses
GEDCGS	Number of federal government campgrounds
STCGS	Number of state government campgrounds
LOGCS	Number of local government campgrounds
FEDRIVMI *	Miles of federal rivers, designated or under study for Wild and Scenic designation
CANOOUTF	Number of canoe outfitters
RUNWATR	Acres of water in rivers
CANOERNI	Number of canoe livery and rental firms in the county
STRIVMI	Miles of rivers designated by states as being significant for historic, cultural, scenic or recreational reasons
FLATWATR	Acres of water bodies
BEACHMI	Miles of publicly accessible beach
MARINAS	Number of marinas
PUBPOOLS	Number of swimming pools open to the public
PVTPOOLS	Number of swimming pools open to members
EFSPHER	Number of fishing piers
VTFH	Vertical transport feet per hour at ski areas
PLOPIAC1	Acres of NIP lands open to recreation (NOT leased) in tracts 20-99 acres
PLOP2AC1	Acres of NIP lands open to recreation (Leased) in tracts 20-99 acres
PVCGS	Number of private campgrounds (Rand McNally)
PLFORAC	Total acres of non-industrial private lands F land in the county
DAILYCAP	Daily lift capacity
LOTOLAC	Total number of acres of local government recreation land (MACPAIRS)

*Indicates values were actually updated.

Source: National Outdoor Recreation Supply Information System (NORSIS) database, USDA Forest Service, Athens, GA.

RECREATION OPPORTUNITY INDICES

Updating Key Variables

In updating the Effective Recreation Opportunity Set (EROS) indices, an attempt was made to update key supply variables within the National Outdoor Recreation Supply Information System (NORSIS). The NORSIS database contains county-level data for more than 400 variables relevant to outdoor recreation supply, and was created during the period 1985-1988. Key variables were determined to be those which were important to a recreation environment, consumption, or demand model, and had a potential to have changed significantly since 1988 (table 6). However, time and budget constraints for completing this report allowed values for only seven variables to be updated. Those included designated federal wilderness acres (FEDWILD), federal lands more than 3 miles from roads (FEDOVER3), miles in the National Wild and Scenic River System (FEDRIVMI), and miles of National Recreation Trails for use in hiking (NTFOOTMI), horseback riding (NTHORSMI), bicycling (NTBIKEMI), and motorcycling (NTMOTOMI).

Changes in wilderness area data were supplied by the Forest Service (FS) and Bureau of Land Management (BLM). Data on FS wilderness acres were obtained from regional Land Area Resource (LAR) reports. These reports list actual or estimated acreage by county for each wilderness area within the region. BLM data were obtained from a national database in their Washington, D.C. office, and from state maps showing the location of wilderness areas and study areas. Several National Park Service (NPS) units were added to the system since 1988. Acreage information for these areas also was obtained from BLM sources. In cases where it was not possible to directly obtain county level estimates, a grid-based sampling method was used to estimate wilderness acreage in a specific county. The sampling process was repeated three times, and the mean of the observations was used.

NPS provided updated information on National Recreation Trails, through the National Recreation Trail Guide. NPS staff provided updates in both additions and deletions to the system, and corrections to errors in the 1988 Guide. In general, few changes have occurred since 1988. Most of the changes involved previous error corrections. NPS also was the primary source for updates for Wild and Scenic River System miles. To get county-level mileage estimates, a small distance mea-

suring wheel was traced along maps to derive mileage estimates. The measuring process was repeated three times, and the mean of the observations was used.

Regional EROS Calculation

Regional EROS measures extend national indices developed for the 1989 RPA Assessment by accounting for regional differences in travel distance thresholds. Before explaining the steps taken for the regionalization, a brief review of the steps taken for EROS calculation is presented. More detailed discussion is provided in English and Cordell (1993), and Cordell and others (1989). EROS is an index of the amount and location of publicly available recreation resources, facilities, and services relative to the number and location of population. EROS values corresponding to the 12 types of recreation environments were produced for each of the 239 representative counties. These environments represent resources arrayed by distance from the nearest road passable to a two-wheel-drive passenger vehicle, for the major categories of land, water, and snow and ice resources.

The primary data source for EROS calculations was the National Outdoor Recreation Supply Information System (NORSIS). For each recreation environment, an expert panel of researchers identified specific recreation resources that were either integral and essential components of that environment's resource base, or relevant, but not critical, to that recreation environment. Selected resources were assigned weights of 3 and 1, respectively.

The first step was to compute the relative abundance of the resources in each environment for each county. Resources were first transformed to resources per capita, to account for congestion effects. Resulting values were indexed to the 95th percentile of national resource per capita values. For each environment, a weighted average of relevant resource per population indices was computed, and the result was re-indexed over all counties to the national maximum. The result yielded Weighted Opportunity Set Indices (WOSI) for each of the 239 representative counties.

Next, WOSI values were transformed to reflect inter-county use pressures and account for travel distance effects. Data collected in the Public Area Recreation Visitors Study (PARVS) were used to obtain relevant travel distances (RTL³) specific to each of the twelve recreation settings. These mileage figures reflect the distance within which 75% of the PARVS respondents

traveled for activities occurring in that setting. The 75% level was used to eliminate households taking long vacations. Effectiveness of resources was assumed to decline linearly with distance, and to vanish at the threshold distance. Distances between counties were measured from county centers. The effectiveness decay weight (EW_{xy}) for each opportunity set i between any two counties x and y was calculated as:

$$EW_{xy} = 1 - (D_{xy} / TD_i), \text{ where } D_{xy} \leq TD_i,$$

$$EW_{xy} = 0, \text{ where } D_{xy} > TD_i,$$

where

D_{xy} = distance between counties x and y

TD_i = threshold distance for opportunity set i .

EROS values were computed as:

$$EROS_{ix} = \frac{\sum_{y=1}^n (WOSI_{iy} \cdot EW_{xy})}{\sum_{y=1}^n EW_{xy}}, \quad i = 1, 2, \dots, 12 \quad (5)$$

where

$EROS_{ix}$ = EROS value of recreation environment i for county x

$WOSI_{iy}$ = WOSI value of recreation environment i for county y

EW_{xy} = effectiveness decay weights between counties y and x for recreation environment i .

n = Number of counties whose centroids are within RTD_i of county x .

EROS values were calculated regionally by using regional relevant travel distances in the final step of EROS calculation. For the first eight recreation environments, an expanded PARVS data set was used to derive regional distances. Respondents were assigned a region based on their home location. As was done in 1989, the travel distance at the 75th percentile of respondents for each activity environment determined the regional RTD. For winter recreation environments, RTD's used in the 1989 Assessment were also used for regional distances because of an insufficient number of cases in the PARVS data set.

The inclusion of regional distances changes the previous EROS model only slightly. Effectiveness weights are now computed as:

$$EW_{xy} = 1 - (D_{xy} / TD_i) \text{ if } D_{xy} \leq TD_i,$$

$$EW_{xy} = 0 \text{ if } D_{xy} > TD_i,$$

where

D_{xy} = distance between counties x and y

TD_i = threshold distance for opportunity set i in region r , where r is region of county x .

The formula for EROS value computation (eq. [5]) is unchanged.

Projections

The 1989 RPA Assessment included effective recreation supply projections for the years 2000-2040. These projections used 1987 as a baseline index. Information for assumed futures was obtained from several sources. Population projections were based on Wharton Econometrics projections. Exogenous land use and recreation resource availability projections were based on past trends, mostly since 1970. Exogenous economic influences and public finance projections were assumed to remain constant (Cordell and others 1989). After estimating future values for the variables, EROS calculation methods as discussed previously were applied.

Methods for projecting regional EROS values were similar to those used in 1989. The major difference was that the current set of projections were calculated using regional population projections. For resource availability, the same resource trend projections used in the 1989 Assessment were applied to each RPA Assessment region to develop projected WOSI values. The methods described earlier to calculate EROS values from WOSI values then were applied for each projected year from 2000-2040. Projections are based on resource trends from 1970 to 1987 and projected changes in U.S. population.

RESULTS

REGIONAL POPULATION COMPARISONS

Current Situation

Population statistics describing the sample of representative counties are presented in table 7. For each of the model independent variables—population, income, age, and rural/urban residence—the representative county national mean is the mean of the four Assessment regions weighted by the number of aggregate observations. The Pacific Coast population mean is heavily influenced by the presence of representative counties in metropolitan southern California and the

Table 7—Means of population descriptive variables for representative counties by region, 1987.

Assessment region	Number of representative counties	Means (standard deviation)			
		Total population	Total % households with income >\$30,000	Total % population ages 18-32	Total % population living on farms
North	92	330,922 (640,966)	26.40 (9.35)	21.76 (2.01)	4.67 (5.10)
Pacific Coast	22	834,614 (1,432,827)	29.27 (7.88)	22.36 (2.04)	1.96 (2.13)
Rocky Mountains	37	158,371 (283,237)	23.81 (7.24)	20.22 (3.35)	4.60 (4.94)
South	88	212,594 (343,106)	19.06 (7.37)	21.30 (2.31)	3.27 (2.87)
National	239	307,005 (652,750)	23.56 (8.96)	21.41 (2.43)	3.89 (4.22)

Source: Outdoor Recreation and Wilderness Assessment Research. USDA Forest Service, Athens, GA.

San Francisco Bay area. The much larger population mean for the Pacific Coast region is inconsequential in the projections methodology, because each region is analyzed separately. For each variable, the regional means listed in table 7 are the population characteristics from which expected future values are calculated by multiplying these figures by expected future growth rates. Because aggregate observations are, in part, a function of population, the eastern regions have a greater number of aggregate observations.

Projected Changes

Expected percentage growth rates of population and income varied by region (table 8). The Bureau of Economic Analysis (BEA) provided regional population projections (U.S. Department of Commerce 1991). These were applied to the population age 12 years and older (CCPOP86). BEA also provided projections of total personal income by region. These were divided by population projections to produce projections of per capita income. Regional projections of per capita income growth were used instead of information on the percentage of households earning at least \$30,000 annually. It was assumed that the proportion of these households in the economy would grow at about the same rate as per capita income growth.

Regional projections of percentage growth were not available for the age (PCT18TMD) and residence (PCTFARM) variables, nor for any of the recreation resource and facility variables. Expected national growth rates for these variables, as used in the 1989 RPA Assessment, were applied to the regional consumption projec-

tions. It should be noted that the representative county average percent of population living on farms in 1987 was just 3.9%, therefore, changes in this relatively small base year mean percentage show a deceptively large percentage change. For example, the percentage of the population living on farms is projected to decline to 3.0% in 2000 which is a 22.9% decrease from 3.9% in 1987.

RESOURCE OPPORTUNITIES

Key Variable Updates

Significant changes to the National Wilderness Preservation System have occurred since 1987 (table 9). More than 5 million acres have been added to the system during that time. Of this amount, 1,086,698 acres have been added in the Forest Service, 1,693,148 in the National Park Service, 1,127,088 in the Bureau of Land Management, and 1,343,444 in the Fish and Wildlife Service. There are 95 million acres in the entire National Wilderness Preservation System. Of this total, 57.4 million acres, or more than 60%, are in Alaska.

In total, 1619 miles of rivers have been added to the Wild and Scenic River system since 1987 (table 10). Of these additions, 983 miles are managed by the Forest Service, 17 miles by the National Park Service, 602 miles by the Bureau of Land Management, and 17 miles by the State of Illinois. After including all of these updates, the amount of resources and facilities within 120 miles of each representative county were calculated. This resource amount was used in the consumption models as a facility measure.

Table 8.—Projected percentage growth rates of population descriptive variables from base year 1987, by region.¹

Variable and region	1987 Base ²	Percent change from 1987 base				
		2000	2010	2020	2030	2040
Population³						
North	330.9	4.1	8.3	12.2	13.2	14.2
Pacific Coast	834.6	24.7	35.0	41.8	44.4	46.9
Rocky Mountains	158.4	15.9	23.9	30.0	32.2	34.5
South	212.6	10.4	16.3	21.5	23.2	24.9
Income⁴						
North	26.4	13.3	22.7	29.9	31.7	33.1
Pacific Coast	29.3	12.4	21.5	29.1	37.9	46.1
Rocky Mountains	23.8	16.0	27.2	35.5	45.1	54.0
South	19.1	16.3	27.7	36.1	45.7	54.6
Age⁵						
National	21.4	-6.5	-9.8	-12.6	-14.0	-15.0
Residence⁶						
National	3.9	-22.9	-38.3	-53.7	-69.2	-84.6

¹Percentage growth rates by region were not available for the age and residence variables. National rates of percentage growth were applied uniformly across the four regions.

²1987 base represents the independent variable mean values for the representative counties within each region.

³CCPOP86—population age 12 & older in 1986.

⁴INC345—percent of households with more than \$30,000 annual income.

⁵PCT18TMD—percent of population between ages 18 and 32.

⁶PCTFARM—percent of population living on farms.

Sources: 1989 RPA Assessment of Outdoor Recreation and Wilderness. USDA Forest Service, Athens, GA. U.S. Department of Commerce (1991).

Regional EROS Indices

Regional EROS values provide a more accurate perspective of effective recreation opportunities. By incorporating relevant travel distances on a regional basis, variations in travel behavior are reflected in the final EROS values. Based on PARVS data, the greatest variation in relevant recreation travel distances exist between the Rocky Mountain region and all other regions (table 11). Specifically, the travel distances were significantly higher in this region for EROS categories four through eight. This may result from greater distances separating recreation areas and the recreating public. In contrast, the South region tended to show shorter relevant travel distances than the other regions for most of the EROS categories.

Table 12 shows means of the EROS indices, both by region and for the nation as a whole. A significant amount of regional variation is masked by simply looking at the national EROS mean alone. In general, effective

recreation opportunities are much greater in the Pacific Coast and Rocky Mountain regions for many EROS categories than in the North and South regions, as expected given the presence of more land for recreation in the West and less population pressure.

Within the land-based categories, effective wilderness opportunities (EROS 1) average about 22 times greater opportunity for people living in the Pacific Coast and Rocky Mountain regions than in the North and South regions. This result reflects the regional distribution of acreage of wilderness resources, as well as the greater numbers of people competing for these resources in the East. "Extensive undeveloped areas near roads" (EROS 2) and "roaded and partially developed areas" (EROS 3) show similar, but not as extreme variation. "Developed sites" (EROS 4) show a more balanced distribution. For all four land recreation environments, the Rocky Mountain Region has the greatest amount of effective recreation opportunities.

Opportunities among water-based environments also vary across regions. The greatest opportunities exist in the Rocky Mountain region for recreation on "Wild and Scenic or other remote lakes and streams" (EROS 5) and "lakes or streams near roads" (EROS 6), and in the Pacific Coast region for "lake/stream sites adjoined by roads" (EROS 7) and "developed water sites" (EROS 8). Although one of these two regions tended to provide the greatest effective opportunities for each of the four water-based environments, the western regions did not dominate the opportunities as they did with land-based opportunities. For example, although the Rocky Moun-

tain region provided the most effective opportunity for "lakes and streams near roads" (EROS 6), the Pacific Coast region had the least opportunity in this environment. The reverse was true for opportunities involving "developed water sites" (EROS 8). Of the four water-based opportunity environments, "Wild and Scenic or other remote lakes and streams" (EROS 5) is the most balanced across regions.

Similarly, analysis of the snow and ice-based environments revealed far more opportunity in the western regions than in the eastern regions. For "wilderness and other remote back-country" (EROS 9), opportunities are

Table 9.—National Wilderness Preservation System (NWPS) acreage (in thousands of acres) in 1987 and 1992, and growth (1987-1992), by managing agency.

Managing agency	1987	1992	Change since 1987
USDA Forest Service	32,549	33,636	1,087
National Park Service	37,385	39,078	1,693
Bureau of Land Management	484	1,611	1,127
Fish and Wildlife Service	19,333	20,676	1,343
Total	89,751	95,001	5,250

Source: National Outdoor Recreation Supply Information System (NORSIS) database, USDA Forest Service, Athens, GA.

Table 10.—National Wild and Scenic River system mileage in 1987 and 1992, and growth (1987-1992), by managing agency.

Managing agency	1987	1992	Change since 1987
USDA Forest Service	2,570	3,553	983
National Park Service	2,015	2,032	17
Bureau of Land Management	2,437	3,039	602
Fish and Wildlife Service	1,043	1,043	0
State of Illinois	0	17	17
Total	8,065	9,684	1,619

Source: National Outdoor Recreation Supply Information System (NORSIS) database, USDA Forest Service, Athens, GA.

Table 11.—Relevant travel distances in miles, by recreation environment and region.¹

Resources and environments		North	Pacific Coast	Rocky Mountain	South	National
Land						
EROS1	Wilderness and other extensive roadless areas	100	95	75	65	80
EROS2	Undeveloped areas near roads	75	95	75	75	75
EROS3	Partially developed, roadless areas	95	95	90	65	80
EROS4	Intensively developed sites	95	100	140	70	95
Water						
EROS5	Wild & remote lakes/streams	85	75	130	50	80
EROS6	Lakes/streams near roads	70	65	140	40	60
EROS7	Lake/stream sites adjoined by roads	55	85	140	80	50
EROS8	Intensively developed water sites	45	45	140	35	40
Snow and Ice²						
EROS9	Wilderness & other roadless areas	100	100	100	100	100
EROS10	Undeveloped areas near roads	100	100	100	100	100
EROS11	Partially developed, roadless areas	200	200	200	200	200
EROS12	Intensively developed winter sports sites	250	250	250	250	250

¹Relevant travel distances are those distances (rounded to nearest 5 miles) within which 75% of PARVS respondents traveled for activities occurring in that setting effectively eliminating vacation trips.

²Relevant travel distances did not vary by region for the four snow and ice EROS categories because of an insufficient number of survey observations.

Source: Public Area Recreation Visitor Study (PARVS), 1985-1989.

Table 12—Mean effective recreation opportunity set (EROS) indices, by region, 1987.¹

Resources and environments		North	Pacific Coast	Rocky Mountain	South	National
Land						
EROS1	Wilderness and other extensive roadless areas	0.72	24.96	30.66	1.86	8.00
EROS2	Undeveloped areas near roads	4.09	17.34	22.67	4.01	8.16
EROS3	Partially developed, roadless areas	7.27	17.35	24.09	8.34	11.20
EROS4	Intensively developed sites	17.08	25.94	27.29	13.87	18.29
Water						
EROS5	Wild & remote lakes/streams	4.32	6.64	8.31	3.59	4.88
EROS6	Lakes/streams near roads	11.26	9.68	21.79	13.03	13.40
EROS7	Lake/stream sites adjoined by roads	8.08	20.16	16.62	9.19	10.93
EROS8	Intensively developed water sites	15.30	28.88	11.22	14.03	15.45
Snow and Ice						
EROS9	Wilderness & other roadless areas	0.62	23.95	26.34	0.16	6.58
EROS10	Undeveloped areas near roads	4.80	16.48	19.95	0.30	6.57
EROS11	Partially developed, roadless areas	7.11	24.31	27.61	0.64	9.48
EROS12	Intensively developed winter sports sites	10.68	22.42	17.24	0.92	9.18

¹The EROS index is a measure of the relative availability of recreation opportunities to households in different locations and is calculated separately for each of the 12 recreation environments.

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

almost non-existent among the eastern regions compared to opportunities in the two western regions. The Rocky Mountain region provides the greatest opportunities for all of the snow and ice-based environments except "developed winter sports sites" (EROS 12). For this recreation environment, the Pacific region ranks highest. The lack of these types of opportunity is understandable for the South region because of the lack of sufficient snowfall. However, the relative lack of effective opportunities in the North region, compared to the two western regions, indicates the presence of greater population competing for fewer available resources.

Substitute Recreation Opportunities

Availability of substitute recreation opportunities is important in modeling recreation demand and consumption. One general measure of the availability of substitutes for a recreation environment is provided by the average of the EROS indices for other recreation settings that might provide a reasonable substitute (table 13). Snow and ice environments were not considered as substitutes for land and water settings; but, land and water resources were regarded as potential substitutes for each other. Although substitute recreation opportunities can be expected to change in the future,

along with recreation resource opportunities, the decision was made to hold the substitute indices constant at the base year level. Recreation supply and demand projections continued under the scenario of no change in the amount of substitutes available.

For all 12 environments, the largest substitute index values are found in the Rocky Mountain region. The most pronounced differences are between the eastern and western regions, because the large amounts of public lands in the West affect virtually all substitute index values. The North region ranks slightly below the South for all land environments, and for three of four water environments.

Regional EROS Projections

A relatively higher percentage of population growth to the year 2040 is expected to occur in the Pacific Coast and Rocky Mountain regions, as shown in table 8. Although overall population, and thus demand, for recreation resources will continue to be greater in the eastern regions, the rate of change in demand likely will be greater in the western regions. National decreases in many, but not all, land, water, and snow/ice resources and environments will coincide with these increases in population, if recent trends continue as identified in

Table 13 —Mean substitute effective recreation opportunity set (SUBEROS) indices, by region.¹

Resources and environments			North	Pacific Coast	Rocky Mountain	South	National
Land							
SUBEROS1	Wilderness and other	extensive roadless areas	9 155	16 913	17 572	9 483	11 293
SUBEROS2	Undeveloped areas	near roads	8 704	15 169	15 044	9 130	10 530
SUBEROS3	Partially developed	roadless areas	8 248	15 286	15 507	8 448	10 093
SUBEROS4	Intensively developed sites		6 827	13 908	14 950	7 671	9 047
Water							
SUBEROS5	Wild & remote lakes/streams		9 100	17 167	18 222	9 510	11 406
SUBEROS6	Lakes/streams near roads		7 718	16 241	16 452	7 630	9 822
SUBEROS7	Lake/stream sites adjoined	by roads	8 151	14 825	16 944	8 349	10 199
SUBEROS8	Intensively developed water	sites	7 123	13 492	16 899	7 705	9 437
Snow and ice							
SUBEROS9	Wilderness & other roadless	areas	7 221	19 923	20 683	0 485	7 994
SUBEROS10	Undeveloped areas	near roads	5 995	15 886	17 145	0 391	6 553
SUBEROS11	Partially developed	roadless areas	5 434	14 300	15 715	0 376	5 979
SUBEROS12	Intensively developed winter	sports sites	4 047	13 986	17 878	0 225	5 696

¹SUBEROS indices are means of the Effective Recreation Opportunity Set (EROS) indices of other resource categories that could substitute for the principal environment in which a recreational activity occurs. That is, the amount of effective opportunity in all other land and water resource categories is assumed to be a potential substitute setting for the land or water resource category in which the recreational activity predominantly occurs. See Cordell, English and Bergstrom (1989) or English and Cordell (1993) for details on the EROS indices.

table 4. The impact of these changes on regional effective recreation opportunities was examined in this study on a regional basis.

In the case of land-based environments, the results show effective recreation opportunities decreasing for "wilderness and remote back-country" (EROS 1), "extensive undeveloped areas near roads" (EROS 2), and "roadless and partially developed areas" (EROS 3) in all four RPA regions (table 14). The reductions range from 10% to 36% less in 2040 than in the 1987 base year, and are projected to be greatest in the North and South regions. In most cases, these decreases are two to three times greater than those in the western regions. One exception is for opportunities in "extensive undeveloped areas near roads" (EROS 2), where the Pacific Coast region falls just behind the North and South regions. Effective opportunities in "developed sites" (EROS 4) are projected to increase over time, although this increase should be much less for the South region than the other three regions. In fact, initial projections are expected to actually decrease for this region before gradually increasing. The greatest increase in opportunities should occur in the Pacific Coast Region followed by the Rocky Mountains and North regions.

The projected effective opportunity changes in water-based environments show varied results. In the case of "Wild and Scenic or other remote lakes and

streams" (EROS 5), effective opportunities are expected to decrease in the eastern regions, and increase in the western regions. Although these changes are relatively small (i.e., averaging 1% to 4.5%) when compared with other environments, the results are interesting given the specific regional population changes expected and the fact that resources available are expected to increase for this category. Opportunities associated with "lakes or streams near roads" (EROS 6) are expected to decrease for all four RPA regions, again with much greater decreases in the North and South regions than in the western regions. Conversely, effective opportunities in "partially developed lakes or streams with roads or crossings" (EROS 7) and "developed water sites" (EROS 8) are expected to increase over time for all four RPA regions. Opportunities in the South region are expected to increase at a slower rate than is the case for the other three regions.

Projected opportunity changes for snow and ice-based environments are expected to decrease for all environments except "developed winter sports sites" (EROS 12). The decreases in "wilderness and other remote back-country" (EROS 9) and "extensive undeveloped areas near roads" (EROS 10) should be much greater in the South region. The Pacific Coast region is expected to show slower rates of decreases in "roadless

Table 14.—Percent change in projected mean effective recreation opportunity set (EROS) indices from base year 1987, by region.

Resources and environments (region)		Percent change from 1987				
		2000	2010	2020	2030	2040
Land						
EROS 1: Wilderness and other extensive roadless areas						
	North	-9.3	-17.0	-23.4	-27.4	-31.2
	Pacific Coast	-3.8	-6.3	-9.2	-11.8	-14.6
	Rocky Mountains	-2.8	-4.7	-6.8	-8.6	-10.4
	South	-9.9	-16.1	-22.7	-26.0	-30.5
EROS 2: Undeveloped areas near roads						
	North	-8.4	-15.3	-21.6	-26.2	-30.5
	Pacific Coast	-5.6	-9.5	-14.1	-18.6	-22.6
	Rocky Mountains	-3.1	-5.6	-8.4	-11.3	-13.9
	South	-8.9	-14.0	-19.4	-23.1	-26.9
EROS 3: Partially developed, roaded areas						
	North	-10.0	-17.7	-24.5	-28.3	-32.8
	Pacific Coast	-5.2	-8.9	-12.6	-16.3	-19.9
	Rocky Mountains	-4.9	-8.3	-12.1	-15.4	-18.8
	South	-13.3	-20.8	-27.8	-31.8	-36.2
EROS 4: Intensively developed sites						
	North	2.4	3.5	5.2	9.1	12.9
	Pacific Coast	4.9	9.2	13.3	17.2	21.5
	Rocky Mountains	3.8	6.9	9.8	12.7	15.6
	South	-1.6	-0.9	-0.4	2.8	5.8
Water						
EROS 5: Wild and remote lakes/streams						
	North	-0.2	-0.7	-1.2	-1.0	-1.0
	Pacific Coast	0.7	1.4	1.9	2.2	2.4
	Rocky Mountains	0.2	0.4	0.5	0.6	0.6
	South	-2.7	-3.5	-4.6	-4.5	-4.8
EROS 6: Lakes/streams near roads						
	North	-5.9	-10.3	-14.5	-16.1	-18.4
	Pacific Coast	-2.7	-3.6	-5.4	-7.1	-9.0
	Rocky Mountains	-1.6	-2.3	-3.4	-4.5	-5.6
	South	-10.8	-15.6	-20.8	-23.0	-25.5
EROS 7: Lake/stream sites adjoined by roads						
	North	1.9	2.8	4.0	7.2	10.1
	Pacific Coast	2.6	4.9	7.2	9.2	11.4
	Rocky Mountains	2.7	4.9	7.0	9.0	11.3
	South	-1.4	-0.9	-0.4	2.1	4.5
EROS 8: Intensively developed water sites						
	North	3.4	5.7	8.0	12.4	16.3
	Pacific Coast	6.3	12.0	17.1	22.6	28.1
	Rocky Mountains	5.7	10.3	14.2	18.3	22.2
	South	0.6	2.9	4.9	9.6	13.6
Snow and ice						
EROS 9: Wilderness & other roadless areas						
	North	-3.7	-6.7	-9.3	-11.6	-14.1
	Pacific Coast	-2.3	-3.9	-5.5	-7.1	-8.7
	Rocky Mountains	-1.5	-2.6	-4.1	-5.4	-6.7
	South	-14.4	-24.5	-30.9	-35.3	-39.6
EROS 10: Undeveloped areas near roads						
	North	-4.8	-8.7	-12.9	-16.2	-19.6
	Pacific Coast	-3.6	-6.3	-9.7	-13.0	-16.1
	Rocky Mountains	-2.6	-4.6	-6.9	-9.2	-11.5
	South	-12.4	-21.4	-30.0	-35.6	-42.0

Table 14. —(continued).

Resources and environments (region)		Percent change from 1987				
		2000	2010	2020	2030	2040
EROS 11	Partially developed, roaded areas					
	North	-22.2	-27.9	-33.0	-36.0	-39.4
	Pacific Coast	-10.2	-12.4	-14.7	-16.9	-19.3
	Rocky Mountains	-14.0	-16.8	-19.7	-22.2	-24.9
	South	-17.7	-24.8	-30.5	-34.6	-38.0
EROS 12	Intensively developed winter sports sites					
	North	6.8	9.4	10.9	14.0	16.0
	Pacific Coast	7.2	11.4	14.1	16.2	17.9
	Rocky Mountains	6.4	10.2	12.5	14.5	16.0
	South	5.1	8.0	8.7	12.0	13.9

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

and partially developed areas" (EROS 11) than the other three regions. In the case of "developed winter sports sites" (EROS 12), all four RPA regions are expected to increase at similar rates.

RECREATION TRIPS

Current Consumption

Because the number of trips consumed is closely tied to population, more trips were consumed in the North region in 1987 than in any other region for all activities except motor-boating (table 15). For motor-boating, the South region consumed the most recreation trips. Because of its much smaller population base, the Rocky Mountain region accounts for the smallest proportion of trips consumed.

Across the four regions, the same seven activities were the most popular, although the rankings within regions varied (table 16). For all four regions, driving for pleasure ranked at the top. For three of the regions, sightseeing ranked second. In the Rocky Mountain region, picnicking was the second most popular activity. In the eastern two regions, outdoor pool swimming ranked seventh, but, in the western regions, it ranked either third or fourth.

Projected Supply

Driving for pleasure and sightseeing are expected to remain the top two activities through 2040, in terms of the nationwide volume of expected supply of annual

trips (table 15). Neither activity ranks lower than fourth in any RPA region. Closely related activities that are often consumed together, sightseeing and driving for pleasure are both dependent on roads and motorized transportation.

There is greater variety among the regions in the activities which are expected to show the greatest percentage increases in expected supply or trip consumption by 2040 (table 17). Five activities are among the top 10 fastest growing activities in all regions. These include downhill skiing, sailing, rafting/tubing, running/jogging, and outdoor pool swimming. The RPA projections for downhill skiing, however, have met sharp criticism from more than one reviewer. Although an extension of recent past trends projects continued steady growth in the developed winter sports sites recreation environment, in reality, the number of downhill skiing resorts has declined in recent years. While larger resorts have been steadily increasing their skier capacity, the overall trend has been a reduction in skier capacity and a gradual decline in the annual number of skier visits (United Ski Industries Association 1991).

It also should be noted that the high projected growth rates of sailing and rafting/tubing are largely a function of their small number of base year trips, making moderate growth in trips appear deceptively large in terms of percent change. Moreover, the regression models for expected supply of sailing and rafting/tubing trips were among the least stable of all of the activity models. The sailing model explained 33% of the variation in sailing trips and the rafting/tubing model performed worst of all, with an adjusted R-square of 0.12.

Table 15 —Current consumption of recreation trips away from home and indices of future growth to 2040, if recent past trends in resource availability continue.

Resource category and activity (national region)	1987 Base ¹ (mm)	Percent change from 1987 base				
		2000	2010	2020	2030	2040
Land						
Wildlife Observation	69.5	107	113	120	120	130
North	31.5	106	114	119	117	114
Pacific Coast	8.9	124	140	152	169	188
Rocky Mountains	5.4	105	111	114	123	132
South	23.8	102	107	109	115	122
Primitive Camping	38.1	108	115	122	130	134
North	16.2	105	113	118	117	116
Pacific Coast	5.8	123	138	248	261	176
Rocky Mountains	2.9	107	115	119	129	139
South	14.4	105	111	114	122	130
Backpacking	25.9	124	144	165	185	198
North	11.2	125	151	174	178	181
Pacific Coast	4.0	134	158	177	203	231
Rocky Mountains	2.2	114	127	134	149	166
South	8.5	122	142	158	182	210
Nature Study	70.7	99	101	103	107	108
North	31.2	97	100	101	97	95
Pacific Coast	9.3	115	125	131	143	158
Rocky Mountains	5.8	98	100	100	106	113
South	24.5	95	95	93	97	102
Horseback Riding	63.2	114	125	135	144	149
North	25.1	113	126	136	137	138
Pacific Coast	11.5	127	143	154	166	179
Rocky Mountains	6.1	107	113	115	121	127
South	20.4	112	122	129	139	150
Day Hiking	91.1	123	144	168	198	229
North	42.4	126	154	184	209	239
Pacific Coast	13.7	125	143	159	181	207
Rocky Mountains	7.7	124	146	169	205	249
South	27.3	116	132	148	172	201
Photography	42.1	115	128	141	154	163
North	18.9	112	127	138	138	136
Pacific Coast	5.7	131	154	172	197	226
Rocky Mountains	3.0	117	133	145	166	189
South	14.5	110	120	127	140	155
Visit Prehistoric Sites	16.7	127	148	173	203	236
North	7.2	124	148	174	202	236
Pacific Coast	2.7	130	150	168	187	208
Rocky Mountains	1.2	127	151	179	215	260
South	5.6	116	130	145	165	189
Collecting Berries	19.0	110	120	132	149	169
North	8.6	110	122	136	152	173
Pacific Coast	2.7	111	119	124	132	142
Rocky Mountains	1.3	115	130	146	172	203
South	6.3	104	110	117	129	143
Collecting Firewood	30.3	109	118	130	144	161
North	15.4	111	123	137	152	170
Pacific Coast	3.3	109	115	119	125	133
Rocky Mountains	1.8	110	121	131	148	269
South	9.8	105	111	118	129	143

Table 15 —(continued).

Resource category and activity (national) region	1987 Base ¹ (mm)	Percent change from 1987 base				
		2000	2010	2020	2030	2040
Walking for Pleasure	266.4	116	132	148	168	183
North	118.0	111	125	136	138	140
Pacific Coast	40.3	147	189	230	288	361
Rocky Mountains	18.8	118	136	151	177	208
South	89.3	111	124	134	152	174
Running and Jogging	83.7	131	160	192	229	260
North	38.4	125	152	177	183	189
Pacific Coast	13.0	169	241	317	434	591
Rocky Mountain	6.3	134	169	201	253	317
South	26.0	124	149	170	205	248
Bicycling	114.5	124	145	170	197	218
North	47.5	118	140	158	161	165
Pacific Coast	18.9	157	210	264	343	445
Rocky Mountain	10.3	126	153	176	214	259
South	37.8	117	136	150	176	206
Offroad Vehicle Driving	80.2	104	108	112	118	121
North	35.9	100	104	106	105	105
Pacific Coast	11.0	124	138	148	159	171
Rocky Mountains	5.9	103	106	109	114	121
South	27.4	100	103	104	108	113
Visiting Museums	9.7	118	134	152	172	187
North	4.7	113	129	142	144	147
Pacific Coast	1.2	148	192	235	297	374
Rocky Mountains	0.6	119	139	155	183	215
South	3.2	112	125	135	153	174
Attend Special Events	73.7	115	129	144	161	175
North	35.2	110	122	133	135	137
Pacific Coast	9.8	144	182	218	269	332
Rocky Mountains	5.2	116	133	146	169	196
South	23.6	110	122	131	147	167
Visiting Historic Sites	73.0	117	133	152	178	204
North	33.9	118	138	159	180	206
Pacific Coast	10.2	121	137	151	170	194
Rocky Mountains	4.9	122	143	166	201	245
South	24.0	110	121	133	151	174
Driving For Pleasure	421.4	110	120	129	139	145
North	198.3	107	117	125	124	124
Pacific Coast	52.5	132	155	273	195	221
Rocky Mountains	27.9	111	122	129	142	157
South	142.7	105	112	116	124	134
Family Gatherings	74.4	121	139	160	182	202
North	35.3	117	136	153	161	171
Pacific Coast	11.4	150	192	232	284	346
Rocky Mountains	5.9	120	138	154	178	206
South	21.7	115	130	143	162	184
Sightseeing	292.1	114	128	144	164	185
North	128.2	115	131	148	166	188
Pacific Coast	45.1	122	137	149	163	180
Rocky Mountains	19.8	118	134	151	177	208
South	99.0	108	117	126	139	156

Table 15.—(continued).

Resource category and activity (national region)	1987 Base ¹ (mm)	Percent change from 1987 base				
		2000	2010	2020	2030	2040
Picnicking	262.1	110	120	131	145	156
North	115.7	105	114	121	122	125
Pacific Coast	36.6	139	171	201	241	289
Rocky Mountains	20.1	110	122	131	147	166
South	89.7	106	113	120	131	145
Developed Camping	60.5	120	138	158	178	195
North	26.8	115	131	145	145	152
Pacific Coast	8.5	150	194	238	294	364
Rocky Mountains	4.9	121	141	158	184	214
South	20.3	116	132	145	165	188
Water						
Canoeing/Kayaking	39.7	113	126	138	153	163
North	17.1	111	124	135	136	138
Pacific Coast	5.2	133	160	183	217	257
Rocky Mountains	3.0	113	128	138	158	180
South	14.4	108	118	125	139	155
Stream/Lake Swimming	238.7	108	118	128	140	152
North	104.9	105	113	121	125	131
Pacific Coast	31.8	131	154	175	202	233
Rocky Mountains	15.3	105	111	115	124	133
South	86.6	106	114	122	135	151
Rafting/Tubing	9.0	123	151	182	229	267
North	4.3	116	146	171	172	175
Pacific Coast	0.9	160	232	308	472	722
Rocky Mountains	0.6	131	172	206	289	406
South	3.2	114	139	155	202	265
Rowing/Paddling, etc.	61.8	110	120	130	142	150
North	27.4	107	118	125	125	125
Pacific Coast	6.8	131	156	177	206	240
Rocky Mountains	4.2	112	124	132	148	166
South	23.4	106	114	119	129	142
Motorboating	219.4	107	114	122	131	138
North	90.3	104	110	115	117	120
Pacific Coast	22.9	128	147	164	183	205
Rocky Mountains	12.4	108	116	123	133	145
South	93.9	104	109	112	119	127
Waterskiing	107.4	112	122	132	144	152
North	44.5	107	115	122	123	125
Pacific Coast	11.1	134	160	182	209	240
Rocky Mountains	8.5	114	127	139	156	176
South	43.4	107	115	121	131	142
Outdoor Pool Swimming	221.0	135	166	200	237	267
North	89.2	134	170	206	222	240
Pacific Coast	37.0	162	220	281	365	470
Rocky Mountains	20.0	134	167	195	238	287
South	74.8	126	151	172	202	236
Sailing	35.0	141	181	226	279	322
North	15.3	137	180	222	239	256
Pacific Coast	5.1	189	281	384	537	743
Rocky Mountains	2.3	140	181	218	278	351
South	12.3	130	161	188	231	282

Table 15 —(continued).

Resource category and activity (national) region	1987 Base ¹ (mm)	Percent change from 1987 base				
		2005	2010	2020	2030	2040
Snow and Ice						
Cross-Country Skiing	9.7	125	136	142	141	126
North	5.3	112	120	116	88	66
Pacific Coast	1.3	154	191	211	245	277
Rocky Mountains	1.2	132	155	161	181	197
South	2.0	126	143	146	157	165
Downhill Skiing	64.3	160	207	256	305	338
North	32.7	174	243	309	336	357
Pacific Coast	11.2	178	241	295	364	436
Rocky Mountains	8.9	168	230	290	376	478
South	11.5	136	163	184	213	243
Snowmobiling	17.7	120	131	137	141	137
North	11.0	123	140	146	135	124
Pacific Coast	2.1	137	162	179	204	228
Rocky Mountains	1.6	124	141	148	162	174
South	3.1	110	117	117	120	122

¹Regional trips may not sum exactly to the national total because of rounding.

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

Nonetheless, given the uniform methods that were applied to each of the activity models and projections, downhill skiing ranked first in the North and Rocky Mountains, while sailing was projected to grow fastest in the Pacific Coast and South. Sailing is also highly ranked in the North and Rocky Mountains. Rafting/tubing is expected to be the second fastest growing activity in every region but the North, where it ranks 10th.

Table 16.—Most popular outdoor recreation activities in volume of trips consumed by region, 1987.

Activity	Region			
	Pacific North	Rocky Coast	Mountains	South
		(rank)		
Driving for pleasure	1	1	1	1
Sightseeing	2	2	4	2
Walking for pleasure	3	3	5	5
Picnicking	4	5	2	4
Non-pool swimming	5	6	6	6
Motorboating	6	7	7	3
Pool swimming	7	4	3	7

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

Growth rates in trip consumption also vary by region, and reflect projected growth in regional population. All of the 10 fastest growing activities in the Pacific Coast region are expected to show increases of more than 200% by 2040.

Table 17.—Top 10 fastest growing activities in trip consumption to 2040, as percentage of 1987 base year trips, by region.

Activity	Region			
	Pacific North	Rocky Coast	Mountains	South
		(rank)		
Downhill skiing	1	6	1	4
Sailing	2	1	3	1
Outdoor pool swimming	3	4	5	5
Day hiking	4	—	9	8
Visiting prehistoric sites	5	—	7	9
Visiting historic sites	6	—	10	—
Running/jogging	7	3	4	3
Sightseeing	8	—	—	—
Backpacking	9	—	—	6
Rafting/tubing	10	2	2	2
Family gatherings	—	10	—	—
Collecting firewood	—	—	6	—
Bicycling	—	5	8	7
Visiting museums	—	7	—	—
Developed camping	—	8	—	10
Walking for pleasure	—	9	—	—

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

Nine of these are expected to grow by more than 250%. In the Rocky Mountain region, 10 activities are expected to double trip consumption by 2040. Eight of these are projected to increase by more than 150%. By contrast, the top two activities in both the North and South regions are projected to grow as much as 150% by 2040.

Three activities—bicycling, day hiking, and visiting prehistoric sites—rank among the top 10 consumption growth activities in three of four regions. Only in the North region is sightseeing expected to grow rapidly. Collecting firewood is expected to grow relatively faster only in the Rocky Mountain region. The Pacific Coast is the only region where visiting museums and walking for pleasure are among the fastest growing activities. Some shifting of the order of activities in terms of the expected supply in absolute number of trips is expected across the four RPA regions; but, generally the same group of activities should remain at the top. Pool swimming trips are projected to be the most popular in both the Pacific Coast and Rocky Mountain regions by 2040. In the North, driving for pleasure and sightseeing are expected to still rank first and second, respectively, in number of trips consumed. In the South, driving for pleasure is expected to remain the most popular activity; but, pool swimming will replace sightseeing as the second most frequently consumed activity.

Projected Demand

Percentage growth in maximum preferred demand (MPD) for recreation trips, paced by changes in income, age, and population is expected to be greater in the Rocky Mountains and Pacific Coast regions than in the eastern regions, for almost every activity (table 18). For day hiking, downhill skiing, visiting prehistoric sites, rafting/tubing, sightseeing, and visiting historic sites, percentage growth in trips demanded is expected to be greater in the Rocky Mountain region than in the Pacific Coast region. For all other activities, the reverse is true.

Again, there are regional differences in the ranking of activities for which demand is expected to grow fastest over the next 50 years (table 19). Four activities rank among the highest 10 percentage growth activities for all regions. These activities are downhill skiing, sailing, running/jogging, and backpacking. Three different activities rank at the top for the four regions. Downhill skiing is expected to have the greatest growth in the North, rafting/tubing in the Rocky Mountains, and sailing in the Pacific Coast and South.

There also are regional differences in the overall rate of growth in MPD. In the North, seven activities have MPD indices at or above 200 by the year 2040. Nine activities reach that level in the South. In the western regions, all of the 10 fastest growing activities have MPD indices greater than 300 by 2040. Three activities in the Rocky Mountains and seven in the Pacific Coast have MPD indices greater than 400.

These changes primarily reflect the expected higher percentage growth in population in the western regions. From 1987 to 2040, the projected growth by region is: Pacific Coast 46.9%; Rocky Mountains 34.5%; South 24.9%; and North 14.2%, as shown in table 8. Projections of percentage growth of the percent of households with at least \$30,000 real income also shows significant gains in all regions. The South region leads the way with a projected 54.6% increase, followed by the Rocky Mountains (54.0%), Pacific Coast (46.1%) and North (33.1%). The combination of population and income projections explain why the North region trails in projected demand for most of the recreation activities.

COMPARISON OF DEMAND AND SUPPLY

Maximum preferred demand and expected supply are closely related concepts. Both measure consumption of recreation trips, but under different assumptions. MPD measures consumption with price held constant and no constraints on the availability of recreation facilities and resources. Expected supply measures the number of trips that households would actually produce and consume at varying price levels and assumed futures for the availability of resources. If expected supply exceeds MPD, no gap is present. However, if projected MPD exceeds expected supply, there is a shortage or "gap." A gap implies that the number of trips households would like to produce, if prices were unchanged, surpasses the number of trips that they would actually produce.

Table 20 lists the MPD, expected supply, and resultant gaps for each of the activities, by region and for the nation as a whole. For a number of activities, gaps appeared in some regions, but not in others. For example, the North region should have an adequate supply of canoe trip opportunities through the year 2040; but, the other three regions show gaps in supply, as much as 61% of current trips in the Pacific Coast region.

Table 18 —Maximum preferred demand for recreation trips away from home and indices of future growth to 2040.¹

Resource category and activity (national) region	1987 Trips ² (mm)	Future number of trips as percentage of 1987 demand				
		2000	2010	2020	2030	2040
Land						
Wildlife Observation	69.5	116	131	146	162	174
North	31.5	112	127	138	139	140
Pacific Coast	8.9	143	179	211	256	308
Rocky Mountains	5.4	118	136	150	173	201
South	23.8	111	122	130	145	162
Primitive Camping	38.1	114	127	140	154	164
North	16.2	110	122	131	131	132
Pacific Coast	5.8	143	178	208	246	290
Rocky Mountains	2.9	115	130	142	161	183
South	14.4	109	118	125	137	151
Backpacking	25.9	134	154	196	230	255
North	11.2	129	160	187	193	197
Pacific Coast	4.0	167	231	295	385	497
Rocky Mountains	2.2	136	172	203	252	309
South	8.5	126	151	171	203	238
Nature Study	70.7	105	113	120	131	138
North	31.2	101	108	113	111	111
Pacific Coast	9.3	129	153	172	202	238
Rocky Mountains	5.8	107	117	124	140	158
South	24.5	100	105	108	117	128
Horseback Riding	63.2	123	141	160	177	198
North	25.1	118	135	150	153	156
Pacific Coast	11.5	150	190	226	267	312
Rocky Mountains	6.1	123	142	158	180	203
South	20.4	117	132	144	159	176
Day Hiking	91.1	131	141	158	174	193
North	42.4	132	167	206	240	282
Pacific Coast	13.7	142	177	212	262	322
Rocky Mountains	7.7	138	178	221	289	379
South	27.3	122	145	168	203	247
Photography	42.1	123	143	165	188	205
North	18.9	118	139	156	158	160
Pacific Coast	5.7	154	202	248	313	392
Rocky Mountains	3.0	125	150	171	206	246
South	14.5	116	133	145	167	191
Visit Prehistoric Sites	16.7	133	160	192	233	278
North	7.2	130	159	193	230	276
Pacific Coast	2.7	139	167	193	222	256
Rocky Mountains	1.2	134	165	201	251	314
South	5.6	120	138	158	184	216
Collecting Berries	19.0	113	126	143	166	192
North	8.6	114	130	148	171	199
Pacific Coast	2.7	119	132	143	158	177
Rocky Mountains	1.3	117	135	154	184	222
South	6.3	106	114	124	139	158
Collecting Firewood	30.3	113	127	143	161	183
North	15.4	113	127	143	161	183
Pacific Coast	3.3	116	128	137	151	166
Rocky Mountains	1.8	116	131	148	173	204
South	9.8	106	114	122	136	152

Table 18.—(continued).

Resource category and activity (national region)	1987 Trips ² (mm)	Future number of trips as percentage of 1987 demand				
		2000	2010	2020	2030	2040
Walking for Pleasure	266.4	116	131	146	164	177
North	118.0	111	125	137	137	137
Pacific Coast	40.3	147	187	224	275	337
Rocky Mountains	18.8	118	136	150	176	206
South	89.3	109	121	128	144	162
Running and Jogging	83.7	133	163	197	234	262
North	38.4	126	157	184	187	191
Pacific Coast	13.0	171	241	313	420	560
Rocky Mountains	6.3	136	173	206	261	329
South	26.0	124	148	167	201	241
Bicycling	114.5	125	148	173	202	222
North	47.5	120	143	163	165	167
Pacific Coast	18.9	160	217	272	354	457
Rocky Mountains	10.3	128	157	181	223	274
South	37.8	117	136	150	176	206
Offroad Vehicle Driving	80.2	105	111	118	123	130
North	35.9	101	106	109	108	108
Pacific Coast	11.0	132	154	171	191	213
Rocky Mountains	5.9	105	111	115	124	133
South	27.4	101	104	106	111	118
Visiting Museums	9.7	118	136	153	174	188
North	4.7	113	130	144	145	146
Pacific Coast	1.2	149	192	232	289	359
Rocky Mountains	0.6	121	143	160	190	226
South	3.2	112	125	135	153	174
Attend Special Events	73.7	114	127	141	157	168
North	35.2	109	122	132	132	133
Pacific Coast	9.8	143	179	211	255	308
Rocky Mountains	5.2	116	132	144	167	193
South	23.6	108	118	125	139	155
Visiting Historic Sites	73.0	122	143	169	203	241
North	33.9	122	147	175	203	238
Pacific Coast	10.2	130	154	177	208	247
Rocky Mountains	4.9	128	157	189	240	306
South	24.0	113	128	143	167	198
Driving for Pleasure	421.4	115	128	142	157	167
North	198.3	110	122	132	133	133
Pacific Coast	52.5	145	181	213	253	301
Rocky Mountains	27.9	116	131	143	163	186
South	142.7	109	119	126	139	153
Family Gatherings	74.4	119	135	152	170	182
North	35.3	113	129	141	142	144
Pacific Coast	11.4	154	197	238	288	346
Rocky Mountains	5.9	120	138	153	176	203
South	21.7	112	125	134	149	166
Sightseeing	292.1	118	136	156	183	212
North	128.2	118	138	160	183	211
Pacific Coast	45.1	131	153	172	196	224
Rocky Mountains	19.8	122	144	168	203	247
South	99.0	111	122	134	152	174

Table 18 —(continued)

Resource category and activity (national region)	1987 Trips ² (mm)	Future number of trips as percentage of 1987 demand				
		2000	2010	2020	2030	2040
Picnicking	262.1	108	117	126	136	144
North	115.7	103	111	116	116	115
Pacific Coast	36.6	137	166	189	219	254
Rocky Mountains	20.1	109	119	126	140	156
South	89.7	103	109	112	121	131
Developed Camping	60.5	120	137	155	173	188
North	26.8	115	131	145	147	149
Pacific Coast	8.5	153	197	238	290	351
Rocky Mountains	4.9	121	141	157	182	210
South	20.3	114	127	137	153	174
Water						
Canoeing/Kayaking	39.7	113	126	140	157	169
North	17.1	109	122	132	131	131
Pacific Coast	5.2	141	177	210	258	318
Rocky Mountains	3.0	116	134	147	174	206
South	14.4	107	117	124	139	158
Stream/Lake Swimming	238.7	105	110	117	124	129
North	104.9	101	105	108	107	107
Pacific Coast	31.8	131	152	169	189	212
Rocky Mountains	15.3	105	111	116	125	136
South	86.6	100	104	105	111	118
Rafting/Tubing	91.0	111	136	164	215	255
North	4.3	106	135	156	148	145
Pacific Coast	0.9	146	210	275	442	720
Rocky Mountains	0.6	132	194	245	417	724
South	3.2	100	119	128	176	249
Rowing/Paddling, etc.	61.8	112	124	136	150	159
North	27.4	108	120	129	129	129
Pacific Coast	6.8	136	166	192	229	273
Rocky Mountains	4.2	114	129	140	160	184
South	23.4	107	116	122	135	150
Motorboating	219.4	108	111	117	123	127
North	90.3	102	107	110	110	110
Pacific Coast	22.9	128	147	162	178	196
Rocky Mountains	12.4	106	112	116	124	132
South	93.9	102	105	108	113	118
Waterskiing	107.4	111	121	131	141	148
North	44.5	107	116	123	123	124
Pacific Coast	11.1	136	163	185	211	241
Rocky Mountains	8.5	112	123	131	144	159
South	43.4	106	114	118	127	137
Outdoor Pool Swimming	221.0	137	169	205	242	269
North	89.2	132	166	196	203	208
Pacific Coast	37.0	167	231	296	389	502
Rocky Mountains	20.0	141	181	217	272	337
South	74.8	130	157	181	215	255
Sailing	35.0	145	188	237	293	335
North	15.3	137	178	218	225	232
Pacific Coast	5.1	200	307	425	603	844
Rocky Mountains	2.3	150	205	256	342	453
South	12.3	133	168	197	244	302

Table 18.—(continued).

Resource category and activity (national region)	1987 Trips ² (mm)	Future number of trips as percentage of 1987 demand				
		2000	2010	2020	2030	2040
Snow and Ice						
Cross-Country Skiing	9.7	147	177	199	212	195
North	5.3	140	174	190	154	121
Pacific Coast	1.3	198	288	364	484	615
Rocky Mountains	1.2	157	206	232	284	336
South	2.0	135	160	164	181	194
Downhill Skiing	64.3	153	197	247	298	333
North	32.7	164	229	294	317	336
Pacific Coast	11.2	173	234	288	361	441
Rocky Mountains	8.9	168	233	298	398	521
South	11.5	142	176	202	241	284
Snowmobiling	17.7	119	128	134	137	130
North	11.0	116	128	132	118	104
Pacific Coast	2.1	132	155	170	193	215
Rocky Mountains	1.6	123	139	146	161	173
South	3.1	114	123	123	128	131

¹Maximum preferred demand is the number of trips households would take if future per trip costs were unchanged from the base year amount and resource availability were unconstrained.

²Regional trips may not sum exactly to the national total because of rounding.

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

Table 19.—Top 10 fastest growing activities in maximum preferred demand to 2040, as percentage of 1987 base, by region.

Activity	Region Pacific North	Rocky Coast	Mountains	South
		(rank)		
Downhill skiing	1	7	2	2
Sailing	4	1	3	1
Day hiking	2	—	4	5
Rafting/tubing	—	2	1	4
Pool swimming	7	—	5	3
Visiting prehistoric sites	3	—	8	8
Cross-country skiing	—	3	6	—
Visiting historic sites	6	—	10	10
Running/jogging	10	4	7	6
Sightseeing	5	—	—	—
Backpacking	9	5	9	7
Bicycling	—	6	—	9
Photography	—	8	—	—
Collecting berries	8	—	—	—
Visiting museums	—	9	—	—
Developed camping	—	10	—	—

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

In most cases where no national gap was projected, regional gaps also were zero. Three exceptions were downhill skiing, snowmobiling, and rafting/tubing. Skiing had no projected gap in the North region, but projected gaps of 5%, 18%, and 37% in the Pacific Coast, Rocky Mountains and South regions, respectively. Snowmobiling showed a gap (9%) of only in the South region. Rafting/tubing had an anticipated shortage of supply only in the Rocky Mountain region, where the gap was 318% of current trips. Because of the small number of base year trips (0.6 million), this rather large percentage gap translates to only 1.9 million trips.

There are some consistencies across regions regarding the five activities projected to have the highest percentage gaps (table 21). For all four regions, cross-country skiing is projected to have one of the five largest regional percentage gaps. Like sailing and rafting/tubing, it had a low number of base year trips and its supply and demand models were relatively weak. Backpacking, day hiking, and wildlife observation rank in the top five activities for three of the four regions. However, there also are regional differences. Even though rafting/tubing is projected to have the largest percentage gap in the Rocky Mountain region, no other

Table 20.—Projected gap between maximum preferred demand and expected supply of outdoor recreation trips away from home, measured as percentage difference by decade to 2040, by region.

Resource category and activity (national) region	1987 Trips ¹ (mm)	2000 D/S/G ²	2010 D/S/G	2020 D/S/G	2030 D/S/G	2040 D/S/G
Land						
Wildlife Observation	69.5	116/107/9	131/113/17	146/120/26	162/120/42	174/130/44
North	31.5	112/106/6	127/114/13	138/119/19	139/117/22	140/114/26
Pacific Coast	8.9	143/124/19	179/140/39	211/152/59	256/169/87	308/188/121
Rocky Mountains	5.4	118/105/13	136/111/25	150/114/36	173/123/50	201/132/69
South	23.8	111/102/9	122/107/15	130/109/21	145/115/30	162/122/40
Primitive Camping	38.1	114/108/6	127/115/12	140/122/18	154/130/24	164/134/30
North	16.2	110/105/5	122/113/9	131/118/13	131/117/14	132/116/16
Pacific Coast	5.8	143/123/20	178/138/40	208/148/60	246/161/85	290/176/114
Rocky Mountains	2.9	115/107/8	130/115/15	142/119/23	161/129/31	183/139/44
South	14.4	109/105/4	118/111/7	125/114/11	137/122/15	151/130/21
Backpacking	25.9	134/124/10	164/144/20	196/165/31	230/185/45	255/198/57
North	11.2	129/125/4	160/151/9	187/174/13	193/178/15	197/181/16
Pacific Coast	4.0	167/134/33	231/158/73	295/177/118	385/203/182	497/231/266
Rocky Mountains	2.2	136/114/22	172/127/45	203/134/69	252/149/103	309/166/143
South	8.5	126/122/4	151/142/9	171/158/13	203/182/21	238/210/28
Nature Study	70.7	105/99/6	113/101/12	120/103/17	131/107/24	138/108/30
North	31.2	101/97/4	108/100/8	113/101/12	111/97/14	111/95/16
Pacific Coast	9.3	129/115/14	153/125/27	172/131/41	202/143/59	238/158/80
Rocky Mountains	5.8	107/98/9	117/100/17	124/100/24	140/106/34	158/113/45
South	24.5	100/95/5	105/95/10	108/93/15	117/97/21	128/102/26
Horseback Riding	63.2	123/114/9	141/125/16	160/135/25	177/144/33	190/149/41
North	25.1	118/113/5	135/126/9	150/136/14	153/137/16	156/138/18
Pacific Coast	11.5	150/127/23	190/143/47	226/154/72	267/166/101	312/179/133
Rocky Mountains	6.1	123/107/16	142/113/29	158/115/43	180/121/59	203/127/76
South	20.4	117/112/5	132/122/10	144/129/15	159/139/20	176/150/26
Day Hiking	91.1	131/123/8	161/144/17	198/168/30	244/198/46	293/229/64
North	42.4	132/126/6	167/154/13	206/184/22	240/209/31	282/239/43
Pacific Coast	13.7	142/125/17	177/143/34	212/159/53	262/181/81	322/207/115
Rocky Mountains	7.7	138/124/14	178/146/32	221/169/52	289/205/84	379/249/130
South	27.3	122/116/6	145/132/13	168/148/20	203/172/31	247/201/46
Photography	42.1	123/115/8	143/128/15	165/141/24	188/154/34	205/163/42
North	18.9	118/112/6	139/127/12	156/138/18	158/138/20	160/136/24
Pacific Coast	5.7	154/131/23	202/154/48	248/172/76	313/197/116	392/226/166
Rocky Mountains	3.0	125/117/8	150/133/17	171/145/26	206/166/40	246/189/57
South	14.5	116/110/6	133/120/13	145/127/18	167/140/27	191/155/36
Visit Prehistoric Sites	16.7	133/127/6	160/148/12	192/173/19	233/203/30	278/236/42
North	7.2	130/124/6	159/148/9	193/174/19	230/202/28	276/236/40
Pacific Coast	2.7	139/130/9	167/150/17	193/168/25	222/187/35	256/208/48
Rocky Mountains	1.2	134/127/7	165/151/14	201/179/22	251/215/36	314/260/54
South	5.6	120/116/4	138/130/8	158/145/13	184/165/19	216/189/27
Collecting Berries	19.0	113/110/3	126/120/6	143/132/11	166/149/17	192/169/23
North	8.6	114/110/4	130/122/8	148/136/12	171/152/19	199/173/26
Pacific Coast	2.7	119/111/8	132/119/13	143/124/19	158/132/26	177/142/35
Rocky Mountains	1.3	117/115/2	135/130/5	154/146/8	184/172/12	222/203/19
South	6.3	106/104/2	114/110/4	124/117/7	139/129/10	158/143/15
Collecting Firewood	30.3	113/109/4	127/118/9	143/130/13	161/144/17	183/161/22
North	15.4	113/111/2	127/123/4	143/137/6	161/152/9	183/170/13
Pacific Coast	3.3	116/109/7	128/115/13	137/119/18	151/125/26	166/133/33
Rocky Mountains	1.8	116/110/6	131/121/10	148/131/17	173/148/25	204/169/35
South	9.8	106/105/1	114/111/3	122/118/4	136/129/7	152/143/9

Table 20 —(continued).

Resource category and activity (national region)	1987 Trips ¹ (mm)	2000 D/S/G ²	2010 D/S/G	2020 D/S/G	2030 D/S/G	2040 D/S/G
Walking for Pleasure	255.4	116/116/0	131/132/0	146/148/0	164/168/0	177/183/0
North	118.0	111/111/0	125/125/0	137/136/1	137/138/0	137/140/0
Pacific Coast	40.3	147/147/0	187/189/0	224/230/0	275/288/0	337/361/0
Rocky Mountains	18.8	118/118/0	136/136/0	150/151/0	176/177/0	206/208/0
South	89.3	109/111/0	121/124/0	128/134/0	144/152/0	162/174/0
Running and Jogging	83.7	133/131/2	163/160/3	197/192/5	234/229/5	262/260/2
North	38.4	126/125/1	157/152/5	184/177/7	187/183/4	191/189/2
Pacific Coast	13.0	171/169/2	241/241/0	313/317/0	420/434/0	560/591/0
Rocky Mountains	6.3	136/134/2	173/169/4	206/201/5	261/253/8	329/317/12
South	26.0	124/124/0	148/149/0	167/170/0	201/205/0	241/248/0
Bicycling	114.5	125/124/1	148/146/2	173/170/3	202/197/5	222/218/4
North	47.5	120/118/2	143/140/3	163/158/5	165/161/4	167/165/2
Pacific Coast	18.9	160/157/3	217/210/7	272/264/8	354/343/11	457/445/12
Rocky Mountains	10.3	128/126/2	157/153/4	181/176/5	223/214/9	274/259/15
South	37.8	117/117/0	136/136/0	150/150/0	176/176/0	206/206/0
Offroad Vehicle Driving	80.2	105/104/1	111/108/3	118/112/6	125/118/7	130/121/9
North	35.9	101/100/1	106/104/2	109/106/3	108/105/3	108/105/3
Pacific Coast	11.0	132/124/8	154/138/16	171/148/23	191/159/32	213/171/42
Rocky Mountains	5.9	105/103/2	111/106/5	115/109/6	124/114/10	133/121/12
South	27.4	101/100/1	104/103/1	106/104/2	111/108/3	118/113/5
Visiting Museums	9.7	118/118/0	136/134/2	153/152/1	174/172/2	188/187/1
North	4.7	113/113/0	130/129/1	144/142/2	145/144/1	146/147/0
Pacific Coast	1.2	149/148/1	192/192/0	232/235/0	289/297/0	359/374/0
Rocky Mountains	0.6	121/119/2	143/139/4	160/155/5	190/183/7	226/215/11
South	3.2	112/112/0	125/125/0	135/135/0	153/153/0	174/174/0
Attend Special Events	73.7	114/115/0	127/129/0	141/144/0	157/161/0	168/175/0
North	35.2	109/110/0	122/122/0	132/133/0	132/135/0	133/137/0
Pacific Coast	9.8	143/144/0	179/182/0	211/218/0	255/269/0	308/332/0
Rocky Mountains	5.2	116/116/0	132/133/0	144/146/0	167/169/0	193/196/0
South	23.6	108/110/0	118/122/0	125/131/0	139/147/0	155/167/0
Visiting Historic Sites	73.0	122/117/5	143/133/10	169/152/17	203/178/25	241/204/37
North	33.9	122/118/4	147/138/9	175/159/16	203/180/23	238/206/32
Pacific Coast	10.2	130/121/9	154/137/17	177/151/26	208/170/38	247/194/53
Rocky Mountains	4.9	128/122/6	157/143/14	189/166/23	240/201/39	306/245/61
South	24.0	113/110/3	128/121/7	143/133/10	167/151/16	198/174/24
Driving For Pleasure	421.4	115/110/5	128/120/8	142/129/13	157/139/18	167/145/22
North	198.3	110/107/3	122/117/5	132/125/7	133/124/9	133/124/9
Pacific Coast	52.5	145/132/13	181/155/26	213/173/40	253/195/58	301/221/80
Rocky Mountains	27.9	116/111/5	131/122/9	143/129/14	163/142/21	186/157/29
South	142.7	109/105/4	119/112/7	126/116/10	139/124/15	153/134/19
Family Gatherings	74.4	119/121/0	135/139/0	152/160/0	170/182/0	182/202/0
North	35.3	113/117/0	129/136/0	141/153/0	142/161/0	144/171/0
Pacific Coast	11.4	154/150/4	197/192/5	238/232/6	288/284/4	346/346/0
Rocky Mountains	5.9	120/120/0	138/138/0	153/154/0	176/178/0	203/206/0
South	21.7	112/115/0	125/130/0	134/143/0	149/162/0	166/184/0
Sightseeing	292.1	118/114/4	136/128/8	156/144/12	183/164/19	212/185/27
North	128.2	118/115/3	138/131/7	160/148/12	183/166/17	211/188/23
Pacific Coast	45.1	131/122/9	153/137/16	172/149/23	196/163/33	224/180/44
Rocky Mountains	19.8	122/118/4	144/134/10	168/151/17	203/177/26	247/208/39
South	99.0	111/108/3	122/117/5	134/126/8	152/139/13	174/156/18

Table 20.—(continued).

Resource category and activity (national region)	1987 Trips ¹ (mm)	2000 D/S/G ²	2010 D/S/G	2020 D/S/G	2030 D/S/G	2040 D/S/G
Picnicking	262.1	108/110/0	117/120/0	126/131/0	136/145/0	144/156/0
North	115.7	103/105/0	111/114/0	116/121/0	116/122/0	115/125/0
Pacific Coast	36.6	137/139/0	166/171/0	189/201/0	219/241/0	254/289/0
Rocky Mountains	20.1	109/110/0	119/122/0	126/131/0	140/147/0	156/166/0
South	89.7	103/106/0	109/113/0	112/120/0	121/131/0	131/145/0
Developed Camping	60.5	120/120/0	137/138/0	155/158/0	173/178/0	186/195/0
North	26.8	115/115/0	131/131/0	145/145/0	147/145/2	149/152/0
Pacific Coast	8.5	153/150/3	197/194/3	238/238/0	290/294/0	351/364/0
Rocky Mountains	4.9	121/121/0	141/141/0	157/158/0	182/184/0	210/214/0
South	20.3	114/116/0	127/132/0	137/145/0	153/165/0	174/188/0
Water						
Canoeing/kayaking	39.7	113/113/0	126/126/0	140/138/2	157/153/4	169/163/6
North	17.1	109/111/0	122/124/0	132/135/0	131/136/0	131/138/0
Pacific Coast	5.2	141/133/8	177/160/17	210/183/27	258/217/41	318/257/61
Rocky Mountains	3.0	116/113/3	134/128/6	147/138/9	174/158/16	205/180/25
South	14.4	107/108/0	117/118/0	124/125/0	139/139/0	158/155/3
Stream/Lake Swimming	238.7	105/108/0	110/118/0	117/128/0	124/140/0	129/152/0
North	104.9	101/105/0	105/113/0	108/121/0	107/125/0	107/131/0
Pacific Coast	31.8	131/131/0	152/154/0	169/175/0	189/202/0	212/233/0
Rocky Mountains	15.3	105/105/0	111/111/0	116/115/1	125/124/1	136/133/3
South	86.6	100/106/0	104/114/0	105/122/0	111/135/0	118/151/0
Rafting/Tubing	9.0	111/123/0	136/151/0	164/182/0	215/229/0	255/267/0
North	4.3	106/116/0	135/146/0	156/171/0	148/172/0	145/175/0
Pacific Coast	0.9	146/160/0	210/232/0	275/308/0	442/472/0	720/722/0
Rocky Mountains	0.6	132/131/1	194/172/23	245/206/39	417/289/128	724/406/318
South	3.2	100/114/0	119/139/0	128/155/0	176/202/0	249/265/0
Rowing/Paddling, etc.	61.8	112/110/2	124/120/4	136/130/6	150/142/8	159/150/9
North	27.4	108/107/1	120/118/2	129/125/4	129/125/4	129/125/4
Pacific Coast	6.8	136/131/5	166/156/10	192/177/15	229/206/23	273/240/33
Rocky Mountains	4.2	114/112/2	129/124/5	140/132/8	160/148/12	184/166/18
South	23.4	107/106/1	116/114/2	122/119/3	135/129/6	150/142/8
Motorboating	219.4	106/107/0	111/114/0	117/122/0	123/131/0	127/138/0
North	90.3	102/104/0	107/110/0	110/115/0	110/117/0	110/120/0
Pacific Coast	22.9	128/128/0	147/147/0	162/164/0	178/183/0	196/205/0
Rocky Mountains	12.4	106/108/0	112/116/0	116/123/0	124/133/0	132/145/0
South	93.9	102/104/0	105/109/0	108/112/0	113/119/0	118/127/0
Waterskiing	107.4	111/112/0	121/122/0	131/132/0	141/144/0	148/152/0
North	44.5	107/107/0	116/115/1	123/122/1	123/123/0	124/125/0
Pacific Coast	11.1	136/134/2	163/160/3	185/182/3	211/209/2	241/240/1
Rocky Mountains	8.5	112/114/0	123/127/0	131/139/0	144/156/0	159/176/0
South	43.4	106/107/0	114/115/0	118/121/0	127/131/0	137/142/0
Outdoor Pool Swimming	221.0	137/135/2	169/166/3	205/200/5	242/237/5	269/267/2
North	89.2	132/134/0	166/170/0	196/206/0	203/222/0	208/240/0
Pacific Coast	37.0	167/162/5	231/220/11	298/281/17	389/365/24	502/470/32
Rocky Mountains	20.0	141/134/7	181/167/14	217/195/22	272/238/34	337/287/50
South	74.8	130/126/4	157/151/6	181/172/9	215/202/13	255/236/19
Sailing	35.0	145/141/4	188/181/7	237/226/11	293/279/14	335/322/13
North	15.3	137/137/0	178/180/0	218/222/0	225/239/0	232/256/0
Pacific Coast	5.1	200/189/11	307/281/26	425/384/41	603/537/66	844/743/101
Rocky Mountains	2.3	150/140/10	205/181/24	256/218/38	342/278/64	453/351/102
South	12.3	133/130/3	168/161/7	197/188/9	244/231/13	302/282/20

Table 20.—(continued).

Resource category and activity (national region)	1987 Trips ¹ (mm)	2000 D/S/G ²	2010 D/S/G	2020 D/S/G	2030 D/S/G	2040 D/S/G
Snow and Ice						
Cross-Country Skiing	9.7	147/125/22	177/136/41	199/142/57	212/141/71	195/126/69
North	5.3	140/112/28	174/120/54	190/116/74	154/88/66	121/66/55
Pacific Coast	1.3	198/154/44	288/191/97	364/211/153	484/245/239	615/277/338
Rocky Mountains	1.2	157/132/25	206/155/51	232/161/71	284/181/103	336/197/139
South	2.0	135/126/9	160/143/17	164/146/18	181/157/24	194/165/29
Downhill Skiing	64.3	153/160/0	197/207/0	247/256/0	298/305/0	333/338/0
North	32.7	164/174/0	229/243/0	294/309/0	317/336/0	336/357/0
Pacific Coast	11.2	173/178/0	234/241/0	288/295/0	361/364/0	441/436/5
Rocky Mountains	8.9	168/168/0	233/230/3	298/290/8	398/376/22	521/478/43
South	11.5	142/136/6	176/163/13	202/184/18	241/213/23	284/243/41
Snowmobiling	17.7	119/120/0	128/131/0	134/137/0	137/141/0	130/137/0
North	11.0	116/123/0	128/140/0	132/146/0	118/135/0	104/124/0
Pacific Coast	2.1	132/137/0	155/162/0	170/179/0	193/204/0	215/228/0
Rocky Mountains	1.6	123/124/0	139/141/0	146/148/0	161/162/0	173/174/0
South	3.1	114/110/4	123/117/6	123/117/6	128/120/8	131/122/9

¹Regional trips may not sum exactly to the national total because of rounding.

²D is the maximum preferred demand; S is the expected supply; and G is the percentage difference (gap) between demand and supply. D, S, and G are all expressed as percentages of the 1987 base number of trips. In the projection base year of 1987, demand is assumed to equal supply with zero gap, that is, demand and supply are in equilibrium.

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

regions are projected to have any gap for that activity. While all regions are projected to have some gap for both visiting historic and prehistoric sites, only in the North region are these gaps among the top five activities with gaps.

Table 21.—Outdoor recreation activities with the largest projected percentage gaps in 2040, by region.

Activity	Region			
	Pacific North	Rocky Coast	Mountains	South
Gap in percent (top five ranked gaps)				
Cross-country skiing	55 (1)	338 (1)	139 (3)	29 (4)
Rafting/tubing	—	—	318 (1)	—
Day hiking	43 (2)	115	130 (4)	46 (1)
Backpacking	16	266 (2)	143 (2)	28 (5)
Wildlife observation	26 (5)	121 (5)	69	40 (2)
Visiting prehistoric sites	40 (3)	48	54	27
Photography	24	166 (3)	57	36 (3)
Visiting historic sites	32 (4)	53	61	24
Horseback riding	18	133 (4)	76	26
Sailing	—	101	102 (5)	20

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

Regional differences are less apparent when examining projected gaps in terms of the absolute number of trips (table 22). Gaps in numbers of trips for sightseeing, driving for pleasure, and day hiking are among the top four activities with gaps in each of the four regions. Although no gap is projected for outdoor pool swimming for the North region, in each of the other regions that activity is projected to have relatively large gaps. In the two eastern regions, relatively large gaps in trips are predicted for wildlife observation, but not for horseback riding. The reverse is true for the two western regions.

Almost every activity for which a small or zero gap was projected occurs primarily in an environment with developed recreation facilities. Recent trends in developed land and water resources indicate that the supply of such recreation opportunities will continue to increase fast enough to absorb additional trip demands. Growth in recreation resources and facilities implies reduced cost for trip production. Lower trip costs induce households to produce more trips. As a result, supply and consumption is greater, and gaps are less likely.

Activities such as backpacking, day hiking, and wildlife observation that occur most often in less developed and more remote settings are projected, to a large extent,

to experience growth in preferred demand that will outpace consumption and production of trips. The models predict that, as accessible recreation resources decline or fail to keep pace with growth in demand, households will not be able to produce the number of trips they would prefer to take in the future at the 1987 price. Here, preferred demand will exceed the expected supply of trips.

CONCLUSIONS

Changes in EROS values are determined by both projected population growth and expected changes in recreation resources. Resource trends for undeveloped recreation resources reflect broad social and land use trends, especially the conversion of land from open space to urbanized areas. Offsetting increases in undeveloped lands owned by state and federal agencies are not expected; therefore, opportunities for most undeveloped environments are expected to decline. Developed opportunities are expected to increase, because of both additional parkland acquisition by local governments, and increased opportunities provided by the private sector.

Much regional variation is masked by national level analyses. Each region has a unique combination of resources, travel behavior, population characteristics, and projected changes. In general, the western regions have greater amounts of resources, longer effective travel distances, and higher projected rates of population growth. Because of these combinations, EROS values are not expected to be as sensitive to population

increases as in the eastern regions. Although population is expected to grow more rapidly in the West, longer effective travel distances mean that the demand for recreation resources will be spread over a broader area. In the eastern regions, where travel distances are shorter, resources closer to population centers will bear a relatively greater share of increased demand. As the capacity of these resources is reached more rapidly, the availability of these resources for other recreating households will be reduced. Therefore, a higher level of use pressure can be expected to be put on recreation resources located near population centers in the eastern half of the country, compared to resources in the West.

In general, the rate of demand growth is expected to be greatest for some strenuous activities, including running and jogging, backpacking, bicycling, hiking, swimming and cross-country skiing. Many of these activities take place in undeveloped environments and on or near trails. Other activities with generally high rates of projected demand growth use scenic or historic resources, including visiting historic and prehistoric sites, sightseeing, and photography. Many of these activities also are those expected to have the greatest absolute number of trips demanded over the next 50 years.

Gap analyses represent the combined results of expected shifts in demand based on trends in population characteristics and income changes, as well as expected trends in resource availability and trip substitution. Gaps partly depend on projected changes in recreation resources, because consumption of recreation trips depends on the availability of effective recreation opportunities. This implies that a large gap for an activity can be reduced by increasing recreation resources that support the activity.

Projected growth in the expected supply of trips is generally highest for activities that occur in developed recreation environments, because those are the opportunities that are predicted to increase most in availability. Projected consumption increases in these activities are further bolstered by the anticipated decline in substitute, less developed, opportunities. As less developed opportunities become more scarce or equivalently, more expensive, households are expected to substitute trips to less expensive developed environments for more expensive undeveloped environments. As a result, these types of activities are generally expected to have gaps at or near zero.

Examining the activities that are projected to have the largest gaps indicates that across all regions, a high degree of use pressure will be placed on trail and scenic

Table 22.—Outdoor recreation activities with the largest projected gaps in absolute number of trips in 2040, by region.

Activity	Region			
	Pacific North	Rocky Coast	Mountains	South
Gap in percent (top five ranked gaps)				
Sightseeing	29.5 (1)	19.8 (2)	7.7 (4)	17.6 (2)
Driving for pleasure	17.8 (3)	42.0 (1)	8.1 (3)	27.1 (1)
Day hiking	18.2 (2)	15.8 (3)	10.1 (1)	12.6 (4)
Outdoor pool swimming	0	11.8 (5)	10.0 (2)	14.2 (3)
Visiting historic sites	10.8 (4)	5.4	3.0	5.8
Horseback riding	4.5	15.3 (4)	4.6 (5)	5.3
Wildlife observation	8.2 (5)	10.8	3.7	9.5 (5)

Source: Outdoor Recreation and Wilderness Assessment Research, USDA Forest Service, Athens, GA.

resources near population centers. These are the resources that provide a primary resource base for activities, such as day hiking, backpacking, horseback riding, sightseeing, and pleasure driving. Because much wildlife observation activity also occurs on or near trails, this activity's gaps are also affected. Even though the western regions may have substantial amounts of trail resources, many are not located near cities. For all regions, resources near population centers are most important in providing effective recreation opportunities. These also are the resources that will undergo the most land conversion and use pressures as the United States population continues to grow.

Some regional differences are evident from the gap analyses as well. In the western regions, some water-based recreation activities will have large gaps, including swimming and rafting/tubing. This may indicate increased pressure by the public for additional water-based recreation resources. In the East, opportunities for wildlife observation or green space activities may be insufficient to meet recreation demand, especially opportunities near population centers. An important part of the resource base in this part of the country that has in the past supported such activities are privately owned rural lands.

In general, regional demand and supply analyses appear to be a significant improvement over national analyses. Further research is needed to improve the capacity of these types of analyses to provide guidance for assessing aggregate future trends. These research areas include:

1. Tracking region-specific trends in resource changes, rather than applying national trends to regional resource levels, to increase the specificity of effectiveness and resource values;
2. Estimating region-specific demand and consumption models, to allow coefficients to vary across regions;
3. Improving methods for estimating EROS values, for example by eliminating the simplifying assumption of linearly declining effectiveness decay weights;
4. Examining substitution between activities for recreating households, in order to improve the substitution measure in consumption models;
5. Examining the stability of coefficients in demand and consumption models over time, to see if projections for these values can be accomplished with static coefficients;
6. Building explanatory models using the individual approach, as opposed to the zonal method;
7. Incorporating a measure of ethnicity into the models, especially in light of increasing ethnic diversity.

These types of additional research can yield another round of improvements in the methods and results for assessing the demand and supply of outdoor recreation in the United States.

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FOREST SERVICE FIREFIGHTING EXPENSES

The Administration's FY 1996 budget includes a request of \$403.3 million for firefighting activities of the U.S. Forest Service. The day the budget was formally transmitted to Congress, the Administration also released \$150 million of the \$250 million contingency appropriation that the Congress approved as part of the FY 1995 Interior and Related Agencies Appropriations Act. The rationale for the release of these funds is that the FY 1994 fire season required significantly higher-than-average fire suppression and mobilization activities. In fact, the Administration claims that there was four times more acreage burned in FY 1994 than during the five-year average.

412. Question. We have faced an unfortunate situation on the frequency and severity of wild fires over the past several years. To what do you attribute this situation?

Answer. In many areas of the West, a prolonged eight-year drought has had a profound effect on the flammability of forested ecosystems. Generally, many of the most significant wildfire problem areas are concentrated in short interval, fire-adapted ecosystems where timber-production objectives maximizing basal area growth, long-term grazing practices, and prolonged fire exclusion have changed stand characteristics. In the absence of periodic low-intensity surface fire, these stands have changed in species composition and structure which, in turn, have predisposed them to epidemic insect and disease outbreak and severe stand replacement wildfire. These changes are most significantly manifested during drought years.

413. Question. How would you characterize the general health of our forest lands at this time?

Answer. In general, the health of our national forests remains good. However, there are some notable exceptions such as the large areas of insect kills in the West which is due to extended drought conditions, and changes in species composition brought about by fire exclusion and past logging practices, continued advancement of European gypsy moth populations in the East, and continued high levels of Southern pine beetles in the Southeast. In addition; new insect and disease problems such as Dogwood anthracnose, Butternut canker, and Hemlock woolly adelgid in the East are causing concern.

Forest health concerns are detailed in "America's Forests: 1994 Health Update," a report prepared by the Forest Service for the Congress and public, which was distributed last Spring. Additional copies can be provided if needed.

414. Question. How does this compare to forest health ten years ago?

Answer. Forest health conditions are pretty much the same as they were a decade ago. There are, of course, some problem areas such as insect infestations in some drought stricken areas in the West and wide-spread southern pine beetle outbreaks in the South.

415. Question. To what do you attribute this decline?

Answer. Prolonged drought and replacement of open forests

such as Ponderosa pine with Douglas-fir and true firs which are susceptible to fire, diseases, and insects in the West; continued gypsy moth defoliations in the East; southern pine beetle epidemics in the South; and new and/or introduced insects or diseases such as butternut canker, hemlock wooly adelgid, and oak decline.

Since the enactment of the Budget Enforcement Act in 1990, Congress has been asked to appropriate "emergency" supplemental funding for forest firefighting expenses on several occasions. This has occurred in spite of the fact that Congress and the Administration had agreed to budget for these activities based upon the ten-year historical average of such expenditures.

416. Question. What was the Forest Service ten-year historical average for the Administration's FY 1995 funding request? Did that estimate take into account the "emergency" expenditures that were approved by the Congress to meet firefighting requirements during that period of time?

Answer. The ten-year average in the Administration's FY 1995 budget request was \$226 million. This average was calculated using fire suppression expenditure data for the years 1984 through 1993. The ten-year average does include "emergency" expenditures.

417. Question. For purposes of the FY 1996 budget request, what is the estimated ten-year historical average for Forest Service firefighting expenses? Does this estimate incorporate the higher than average incident of fires experienced in FY 1994 and previous years?

Answer. The budget request includes the ten-year historical average of \$239 million. This average was calculated using all firefighting costs for the period FY 1985 through FY 1993 and 28 percent (\$190 million) of the total firefighting cost (\$671.8 million) for FY 1994.

In past years, Congressional Committees have taken issue with the definition of activities assumed to be "emergency" in nature. The Forest Service has included "presuppression" activities as one of the items that could be included in the "emergency" category.

418. Question. What is the Forest Service's current definition of activities that can be classified as "emergency" requirements?

Answer. There are four fire management activities that qualify for emergency designation: wildfire suppression, presuppression for economic efficiency, presuppression activities due to emergencies, and emergency fire rehabilitation.

Wildfire suppression - For direct expenses associated with suppression of fires on or threatening National Forest System lands or other lands under protection agreements.

Presuppression for economic efficiency - For extending the presuppression capability provided under the Fire Protection program to a level of presuppression of about 88% (FY 1996) of the Most Efficient Level (MEL) of fire protection. MEL is predicted using the National Fire Management Analysis System (NFMAS) model for lowest-cost total fire program.

Presuppression due to emergencies (known as "severity") - For increasing the level of fire presuppression capability and preparedness above the level of MEL funded when predicted or actual burning conditions exceed those normally expected. "Severity funding" is provided on a localized basis and only when formally requested by individual field units. These requests are analyzed, and approved on a case-by-case basis by the Chief of the Forest Service. These funds provide a safeguard when regularly funded fire presuppression resources clearly will not provide adequate protection during extreme burning conditions.

Emergency Rehabilitation - For immediate and necessary actions to prevent further destruction of natural resources on burned over National Forest System lands. Subsequent actions such as reforestation or watershed restoration are programmed as part of the regular budget.

419. Question. In view of the continuing inability to harvest timber off public lands, even for salvage purposes, and the regularity of these disastrous fire years, why should Congress continue to classify the firefighting budgets of the Forest Service and Department of Interior agencies as "emergency" requirements to be funded outside the discipline of the discretionary spending caps? Since these expenses are becoming part of the regular budget process, shouldn't they be funded within annual agency budgets and within the overall caps on discretionary spending?

Answer. Classification of "emergency" requirements funded outside of discretionary caps reflect the uncertainty of events and conditions that are impossible to accurately assess one or two years in advance of the actual fire season. The National Fire Management Analysis System (NFMAS) does estimate annual average emergency fire suppression costs that would be realized over a ten-year period, given "normal" conditions and specific levels of funding. However, the number, intensity, and location of wildfires as they relate to specific fuel conditions, topography, weather, proximity to suppression resources, and other fire activity are variables that preclude specific, precise estimates; hence, the need for "emergency" status.

The ten-year average for emergency suppression is useful as an estimate of need. In addition to the variables listed above, non-reimbursement agreements between the Forest Service and the Department of Interior agencies (to reduce paperwork) inflate the ten year average above that needed solely for National Forest System suppression since actual expenditures include assistance for suppression efforts on National Parks, wildlife refuges, and other Department of Interior lands.

Inclusion of the ten-year average or other similar estimate of emergency wildfire suppression needs within constrained annual budgets could impact all FS programs when the average is exceeded, especially if presuppression budgets were reduced as a result. Reductions in presuppression would result in even larger suppression costs (less protection capability or less fuels treatment) in the short term, escalating the ten-year average at a faster rate.

420. Question. Can you provide for the record information on so-called "emergency" expenditures by the Forest Service to finance firefighting activities since the enactment of the 1990 Budget Enforcement Act? How much has been spent over this same period under annual agency budget requests?

Answer. Total expenditures for firefighting for the period FY 1990 through FY 1994 was \$1,574,478,000. A total of \$997,882,000 of this amount was spent from funds appropriated for the Emergency Forest Service Firefighting Fund and the Emergency Contingency Fund established by Congress in FY 1993.

Background:

In its notification of the release of FY 1995 emergency contingency funding for Forest Service firefighting expenses, the Administration indicated that in FY 1994, 14,426 fires burned just under 1.5 million acres of national forest land, compared to a five-year average of 10,839 fires burning 355,727 acres. OMB indicates that the \$226 million appropriated to the Forest Service in FY 1995 was equal to the ten-year historical average over FY's 1984-1993.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

FOREST INVENTORY ANALYSIS

Forestry is a billion-dollar enterprise in the State of Mississippi and a major industry in the south. Forest Inventory and Analysis research and information from your Southern Research Station has been vital to economic development and planning, and key to sound forest management decisions. At present the inventory cycle time in the South is approximately nine years.

421. Question. What needs to be done to reduce the length of this cycle and what funding is required to meet these needs?

Answer. The inventory cycle time is dependent on the level of program funds, a corresponding number of personnel needed to collect, process, and analyze field data and development of technology to make the job easier and more efficient.

In order to reduce the southern inventory cycle time by at least one year (to eight years), we would need additional funding in the amount of \$1,000,000. To achieve the five-year cycle objective recommended by the Blue Ribbon Panel on Forest Inventory and Analysis, we would need a \$3,500,000 increase over the current budget and an increase in staffing.

422. Question: Does the Forest Service support the development of a center for cooperative research on remote sensing at Mississippi State University?

Answer. The development and application of remote sensing technology to forest inventory and forest management issues represent an excellent opportunity. The use of satellite and related technologies, including geographic information systems (GIS) and global positioning systems (GPS), offers promise for increased efficiency and faster delivery of inventory information. This technology, along with forest growth models and other information, will be key elements in the successful development of

annual inventory updates which we are currently working on. Not only are we interested in the technology for application to forest inventory, but there are many forest management applications where it promises significant advantages. The importance of remote sensing and related technologies is recognized both nationally and internationally.

We have developed capability to conduct remote sensing research within the Forest Inventory and Analysis unit located at Starkville. This unit currently has a core group of experienced researchers, a state-of-the-art forest resource data base, and the latest computer hardware and software. The unit's research is at the forefront of work government-wide and world-wide to address a variety of issues relating to updating forest inventories, mapping forest-type occurrence for large-scale areas, and integrating global positioning systems and geographic information systems with remotely-sensed resource data.

We have had good initial results with this research, in large part because of the cooperative relationship we have maintained with Mississippi State University. The University has provided assistance both in research and education projects. Their small remote sensing staff--although currently in transition--has been widely recognized. The University has extensive facilities for educating the forest managers that will apply these new technologies to forest of the nation and the world.

We believe increased emphasis on remote sensing research would provide significant benefits to the nation; this could best be done, we believe, through the development of a center of excellence in cooperation with Mississippi State University. Such a center involving elements of the Forest Service and the University would have significant advantages. This cooperative center would afford not only the development of new techniques, but also ensure the transfer of the technical knowledge to forest managers.

Funding needed to implement the proposed International Remote Sensing Center (in cooperation with Mississippi State University) would require \$1,750,000 in start-up costs, and \$1,600,000 annually.

FOREST SERVICE RESEARCH

The Committee understands that Forest Service Research has taken virtually all of the \$6 million in 1995 rescissions out of cooperative research grants with the forestry schools and other cooperators.

However, this cooperative research is some of the most cost effective research, it leverages outside investments, and addresses problems of concern to the wider forestry community. Understandably, the forestry schools are now telling their researchers not to cooperate with the Forest Service in the future given the agency's policy.

423. Question. What steps will you take as Chief to ensure that cooperative research efforts with the universities and private sector are retained as the agency was directed by the Senate Report language in the 1995 budget rescission bill?

Answer. Forest Service Research has a long standing commitment to a viable extramural research program with universities and other cooperators. This program complements and strengthens our internal long term national program, provides scientific skills not available internally, expands the capability to address complex problems through leveraging of resources, and develops future natural resource scientific skills.

Several months ago, Congress asked the Forest Service to look at a potential rescission of FY 1995 Appropriations focusing on the approximately \$6 million added to the Forest Service Research budget above the FY 1994 Appropriations. In order to achieve real savings in the current fiscal year, the Forest Service looked at unobligated balances. Further, an assessment was made to determine if it would be possible to save money by terminating internal studies, unfunding scientists and support staff, and closing locations. Opportunities to achieve savings by these means were limited.

The approach chosen was to reduce internal programs by about \$2 million and to honor existing cooperative agreements, whenever possible, while reducing unobligated cooperative agreements by about \$4 million. Further, we tried to focus on new initiatives in order to maintain longer term commitments. The Forest Service annually funds about \$21 million in cooperative research. Thus, while affecting this important program, about \$17 million (81% of the original estimated funding) in external research efforts would continue.

We are committed to working with the universities during implementation of the rescission to minimize impacts on priority research programs and university faculty and students. We also are committed to continuing a cooperative research program.

SOUTHERN APPALACHIAN ASSESSMENT AND COLUMBIA RIVER BASIN ASSESSMENT

A tremendous amount of money is being allocated to the Southern Appalachian Assessment and Columbia River Basin Assessment. In addition, there is over \$40 million a year allocated to the President's Northwest Forest Plan. These dollars are being sent out to the Pacific Northwest to offset the closing of the timber industry. The more dollars allocated to the Pacific Northwest for these projects, the less there is to be spent on timber, wildlife, and recreation programs in the country.

424. Question. There are many programs in the rural south which need to be addressed such as the timber, recreation, and wildlife programs. Why is the rural South not receiving the dollars it desperately needs in order to carry out its programs?

Answer. The Forest Service has fewer dollars to meet ever increasing demands. Difficult reallocation of both dollars and staffing was made to address these demands, given the tight budget situation. The proposed FY 96 Forest Service budget shows a reduction of 6%, while the Southern Region (Region 8) will only be reduced by 3%.

RED-COCKADED WOODPECKER

I understand that the Environmental Impact Statement will be issued in June. Currently, on the Homochitto National Forest 80% of the

Forest is over 60 years old. Every year two trees per acre are lost due to natural causes (there are 50 trees per acre). There exists a great need for thinning out of the timber stands to prevent future disasters such as death and disease.

425. Question. In interest to Forest Health and red-cockaded woodpecker, how can the environment of our Forests be maintained if we are restrained from thinning out the stands due to the environmental impact statements?

Answer. The long-term strategy for the red-cockaded woodpecker does not preclude thinning as a management tool, in fact it encourages thinning to create more open stands for nesting and to manage foraging habitat to minimize the risk of southern pine beetle (SPB) infestations. It does set a minimum conifer basal area to maintain for nesting habitat (60 square feet per acre) and for foraging (70 square feet per acre). Special criteria are included to provide for thinning under high SPB risk situations.

MISSISSIPPI TIMBER SALE PROGRAM

Under the Mississippi Timber Sale Program, it states that the National Forests in Mississippi have the authority to sell timber at 300,000 million board feet (it is referred to as ASQ in the plan). In FY 1995 the target plan was set at 140,000 million board feet and in FY 1996 it has been set for 170,000. However, in 1989 the target was at an all time high -- 250,000. Since 1990 the target has been decreasing.

426. Question. The National Forests of Mississippi are capable of producing more than 300,000 million board feet per year. Why is the state not being permitted to produce at the 300,000 ASQ? What can Mississippi do in order to produce at this level?

Answer. When the Land and Resource Management Plan for the National Forests in Mississippi was implemented in 1985, the ASQ was determined to be 508 million cubic feet, which equates to approximately 254 million board feet per year. We regret that you have been misinformed as to the ASQ for this Forest.

The ASQ is not intended to be a target, but is a biological potential under optimum conditions, funding, and personnel ceilings. In Mississippi's situation, this potential is based partly on the large number of young trees that are expected to be available in the future, as evidenced by the fact that approximately 50% of the forest is in 0-30 year age class due to accelerated cutting in the past decades. During the period since 1985, an average of 201 million board feet have been sold per year in Mississippi.

Under current management, the total volume planned for offer in 1995 is 180 million board feet. This is approximately 90% of the historic average. Overall in the Southern Region, the timber sale program has been reduced from an average of 1,135 million board feet sold per year, to a planned program of 838 million board feet in 1995, or a reduction of 25%. The national budget for timber sales management (sale preparation, harvest administration, resource support, and silvicultural examinations) has decreased 40 percent from FY 1989 to the FY 1996 request before adjusting for inflation.

Mississippi is currently funded and planning to offer the largest timber sale program in the Southern Region, one of the largest in the Nation, and continues to be supported and funded at much higher levels than other forests in the Region.

EMERGENCY FUNDING OF INSECT CONTROL DISEASE FUNDS

The Emergency Funding of Insect control Disease Fund is currently not a line-item in the Forest Service budget. The Office of Management and Budget has the authority to release funding. These funds are not only allocated toward emergency related events; they are used to conduct research and other things as well.

427. Question. What is the Forest Service doing to streamline this process and to make the fund a line-item in the Forest Service budget?

Answer. The emergency suppression funds, which are only used for suppression of insects and diseases are not being requested for FY 1996. There are existing line-items which include funding for Federal and cooperative prevention and suppression. The budget request includes \$9.5 million for regular prevention and suppression, and was built on the premise that this amount plus anticipated carryover of FY 1995 emergency fund authority will be sufficient to meet suppression needs. Future budgets will likely include all prevention and suppression needs in the the regular line item.

PRIVATE PROPERTY RIGHTS

Under the Steward Incentive Program (SIP), landowners must submit a land management plan to be eligible to receive Federal aid.

428. Question. How does the Forest Service honor the property rights of adjacent private landowners? Is this an attempt to force private landowners in the Ecosystem Management Program?

Answer. The Ecosystem Management Program is applicable only to federal lands in the National Forest System. The requirement of a Forest Stewardship Plan on the part of forest owners in order to be eligible for Stewardship Incentives Program (SIP) cost-share funds is designed to assist forest owners in fully exploring multiple-use objectives for owning their forest land and in selecting a range of practices to help them achieve their objectives in an ecologically sound and responsible manner. The Forest Stewardship and SIP programs are cooperative and voluntary in nature and are delivered through State Forestry agencies to help protect private property rights and values.

RESTORATION OF SOUTHERN BOTTOMLAND FORESTS

There is a continuing need for research on the restoration of southern bottomland forests and the development of environmentally sensitive methods for managing natural stands.

429. Question. Does the proposed Forest Service budget provide adequate funding to respond to this need?

Answer. At the present time, the research program in bottomland and wetland forest ecology and management in the South

is adequately funded. Located at the Southern Hardwoods Laboratory, Stoneville, MS and at the Center for Forested Wetlands Research, Charleston, SC, this research is providing the technology and guidelines needed for restoring and managing forested wetlands and sustaining the productivity of bottomland forests.

If additional funds were available above the current research appropriation, they would be used to expand the programs at both laboratories. Increased funding for Stoneville would be used to develop new restoration techniques for mixed species bottomland hardwood forests with special attention to soil quality, biodiversity, and landscape ecology. Additional funds at Charleston would be used to accelerate implementation of new research on the restoration and management of forested wetland ecosystems.

NATIONAL FOREST SYSTEM LAND RESOURCE MANAGEMENT PLANNING ACT:
PROPOSED RULE - PARTS 215, 217, 219

On April 13, 1995, the Department of Agriculture issued a new regulation for land management planning of National Forests. This regulation is the National Forest System Land and Resource Management Planning Act. This regulation addresses Ecosystem Management and specifically states "statutory changes would be necessary to meet carrying out ecosystem management." This suggests that statutory changes may occur in order to carry out the ecosystem management program.

430. Question. Is there any attempt here to alter the original laws under which the National Forest System is to be managed?

Answer. We are unaware of any attempt to change the laws for managing National Forest System lands.

FOREST SERVICE REINVENTION

Under the Forest Service Reinvention, self-managing teams are highly promoted. In this plan there seems to be no sense of accountability within the system nor does there appear to be a system of rewarding people.

431. Question. Who is ultimately responsible for the oversight of accomplishments of the timber sale targets at the Forest Service level?

Answer. Line Offices at the regional, forest and district levels are responsible for accomplishing all targets including timber.

ECOSYSTEM RESEARCH

Under the Ecosystems Research budget line item, you propose to direct some of the increased funding to studies on "achieving sustainable forest management through ecosystem management strategies which involve production forest on public and private lands." The Nation is relying more and more on the South's wood basket to provide timber and other benefits.

432. Question. What research are you proposing for the South under this "production forest" initiative and what funding is needed to support it?

Answer. Forestry is important in the South. There are 182 million acres of timberland in the 13 Southern States from Virginia to Texas. Timber products are the region's most valuable cash crop. Over 70% of the forested land in the South is owned by non-industrial private forest (NIPF) landowners. The nation will need to effectively manage these lands over the next decade to meet its growing demand for wood products.

Research is needed that addresses the wood production capacity of the land while also integrating owners' objectives where values are placed on wildlife, recreation, or aesthetic components of the forest. This research is needed to support the NIPF stewardship programs.

Specific research would include assessment of current land-use practices, evaluation of regeneration systems and other silvicultural practices, analyses of economic potential, and evaluation of laws and incentives pertinent to stewardship practices.

The research described above will be funded on a competitive basis under the Ecosystem Research BLI. Under this program, funding for new or expanded projects in FY 1996 will be limited to \$300,000 per year for 3 to 5 years.

FOREST RESEARCH BUDGET

In FY 1995 the Forest Research budget was restructured from six budget line items to the present three. I understand that you believe a single line item for research would be more efficient and provide you with better capability and flexibility.

433. Question. What are the advantages of Research having a single budget line item?

Answer. Consolidation of the Forest Research budget line items would give us the capability and flexibility to better accomplish our mission. Administrative efficiencies would be gained in budget preparation. Program effectiveness would be strengthened through support of integrated, multi-disciplinary science necessary for solving complex natural resource management problems. Consolidation would also allow Research to address USDA, OMB and Congressional concerns regarding unnecessary complexity in the current Research budget structure.

A single line item will provide on-the-ground scientists with a more effective and flexible budget structure, allowing them to implement integrated/inter-disciplinary research to support natural resources management. It will provide Research the opportunity to more clearly describe the Research program by components that are understandable, thereby enhancing accountability of the program. Our overriding objective is to instill a higher level of trust by Congress and the public by better communicating how federal monies are spent and benefits obtained.

434. Question. What is the impact of major reductions in the Forest Research program and how would such reductions affect cooperative research such as your long-standing programs with Mississippi State University and other institutions?

Answer. The Forest Service Research program is highly integrated at the field level to effectively provide scientific and technical information essential for managing the Nation's natural resources on public and private lands. A reduction of very large magnitude would require reductions- in-force (RIF), location closures and mergers, and substantially reduce our capability to cooperate with universities and other partners. Local economies will be immediately impacted. Ultimately the reduction will severely diminish our capability to provide information vital to supporting economic sustainability of the Nation while protecting our environment for present and future generations.

Forest Service Research is a leader in providing a longterm institutional base of scientific and technological expertise for managing the Nation's and world's natural resources. However, we rely heavily on partnerships and cooperative relationships to help accomplish our mission. Research has reduced its scientific and technical work force in recent years in order to maintain operational funding to support priority research and provide the high-tech equipment and facilities needed for today's scientific studies. Cooperative grants and agreements are primarily used to supplement and acquire the scientific expertise that we do not have in house or are unable to permanently maintain. In addition, these partnerships are necessary for providing the interdisciplinary expertise needed to provide the scientific and technological information to implement ecosystem management on our Nation's forests and grasslands. A major reduction in the Forest Research program would severely erode the partnerships we have established and reduce or eliminate some of the long term science that underpins natural resource management.

Specific to Mississippi State University:

The Southern Research Station continues to maintain numerous cooperative agreements with Mississippi State University (MSU). In FY 1995, the Station is collaborating on 25 cooperative agreements with MSU that total \$792,053. A few agreements currently being conducted in cooperation with MSU include:

- o Development and assessment of methods for analysis of AVHRR data for forest area estimation. (\$45,000) (David Evans, Research Work Unit 4801, Starkville, MS)
Principal Investigator: W. Frank Miller, School of Forest Resources
- o Long-term effects of harvesting practices on floristic and structural diversity of bottomland hardwood stands. (\$68,200) (John Stanturf, Research Work Unit 4152, Stoneville, MS)
Principal Investigator: J. Hodges, Department of Forestry
- o Re-establishment of bottomland oak species on the Lake George Wildlife wetland (\$70,000) (Ted Leiningner, Research Work Unit 4504, Stoneville, MS)
Principal Investigator: S. Schoenholtz, Department of Forestry

- o Advancement of agriculture and scientific research - quantitative studies (\$123,694) (Greg Reams, Research Work Unit 4107, New Orleans, LA)
Principal Investigator: S. Burkett, MSU Research Center
- o Environmental stresses and reproductive biology of loblolly pine (\$51,500) (Franklin T. Bonner, Research Work Unit 4103, Starkville, MS)
Principal Investigator: W. W. Elam, Department of Forestry

FOREST INVENTORY AND ASSESSMENT (FIA) FUNDING

The Forest Service and others in the forestry community have endorsed the FIA Blue Ribbon Panel Report that calls for reducing the forest inventory cycle and making other improvements in the nation's forest inventory. Yet, the inventory cycle continues to get longer, at the same time that reductions in Forest Service timber sales are putting added pressure on State and private lands to supply basic commodities for the U.S. population.

435. Question. What positive actions do you plan to take to fully implement the FIA Blue Ribbon Report to ensure that the forestry community's needs are being met?

Answer. Last October, the Chief called upon Forest Service Research to begin the process of reinventing inventory and monitoring for the Agency that will work toward full implementation of the Blue Ribbon Report. A task team has thoroughly reviewed the situation and made the recommendation that we establish an Institute for Strategic Resource Inventory. The Institute is made up of Forest Service employees. The primary function of the Institute will be to serve as a focal point or clearinghouse for strategic inventory information for the Agency. The Institute will provide a direction, priority setting, and coordination mechanism aimed at providing inventory data that are current, consistent, and readily accessible. The efficiencies achieved through better coordination and the benefits derived from prioritizing technology development should combine to improve the inventory remeasurement cycle as well as service to our customers and cooperators.

RESEARCH PROGRAM FOCUS

It has become apparent over the last few years that the Forest Service Research program has been allocating more and more resources to internal Forest Service issues and less and less to the concerns of other stakeholders of Forest Service research.

436. Question. Given Forest Service policy of turning the responsibility for future timber supply over to the private sector, how are private non-industrial landowners going to be able to increase production on their lands to make up for the short fall caused by Forest Service cutbacks?

Answer. While the volume of timber from our lands has decreased in recent years, the Forest Service does not have a policy of turning the responsibility for future timber supply over to the private sector. Ways in which the private nonindustrial forest owners will be able to increase production on their lands is by investments in pre-harvest planning, reforestation, and timber

stand improvement practices. This will require increased government efforts at: 1) educating and informing these owners of the economics of such investments; 2) providing technical assistance to assist these owners in conducting the above practices; and 3) either cost-shares, tax, or other financial incentives to encourage their voluntary investment in actual practices. All three efforts will be required if our nation's nonindustrial forest lands are to remain productive over the long term.

QUESTIONS SUBMITTED BY SENATOR CONRAD BURNS

FOREST SERVICE ORGANIZATION

437. Question. I understand that the Forest Service has reconsidered the Regional Office consolidation. This is a wise move as far as serving the public. What are the Forest Service's reorganization plans at this point?

Answer. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995. The timing of the Secretary's confirmation and his commitment to personally review the original proposals in light of numerous comments received necessitated the delay. The Forest Service plan will not consolidate the nine Regions and associated Regional Offices. The plan reduces Washington Office employment and field headquarters employment at a higher rate than overall Forest Service employment. We plan to begin implementing the Washington Office downsizing and restructuring in July, and the field headquarters downsizing in October.

438. Question. What is the status of the plan to consolidate the Beaverhead and the Deerlodge?

Answer. The Northern Region has submitted a proposal to the Washington Office to consolidate the administrative leadership of these two forests. Rather than be headed by two separate Forest Supervisors, the two forests would be under the direction of one Forest Supervisor. No office closings or employee relocations are included in the proposal, and the two forests would retain their separate identities (i.e. they will retain their current names).

The Washington Office is currently studying the merits of the proposal.

439. Question. Where are you in the process of selecting a new Regional Forester in Region 1? With all that is going on in the Region, I hope you intend to pick someone with experience in the many issues affecting that area.

Answer. Secretary Glickman and I are pleased to announce that Mr. Hal Salwasser has been appointed as the new Regional Forester for the Northern Region, headquartered in Missoula, Montana.

Mr. Salwasser's 17-year career with the Forest Service is marked by dedicated service and a commitment to the stewardship of natural resources. His extensive work in ecosystem management has acutely prepared him for the managerial and professional work of this position. He will be a great asset to the Northern Region in addressing the current and emerging issues that face the agency.

Mr. Salwasser began his Forest Service career in 1978 as the Regional Wildlife Ecologist for the Pacific Southwest Region, based in San Francisco. In 1982 he was promoted to National Wildlife Ecologist for the agency, where he developed and coordinated the Forest Service Wildlife and Fish Habitat Relationship Program. He later became the Deputy National Director of Wildlife and Fisheries in Washington D.C. . . In 1990, Salwasser spearheaded the New Perspectives program for the Forest Service.

Mr. Salwasser possesses the experience and managerial abilities that are needed to provide leadership to our mission to the American public in general and the citizens of Montana in particular.

FOREST LAND MANAGEMENT PLANNING

440. Question. Your proposed planning regulations are out for public review. Your intent to streamline the planning process is long overdue and I am pleased that this is your intent. However, I am not certain that you have really streamlined. It appears you may have plans that are just as long and timely to prepare. A concern that I have is that a lot of what was part of the planning process is now part of the directives process. You say you will be publishing rules on directives at a later date. This leaves the public and the Congress with only part of the system to review. Can you comment on why this is and when we can expect to see the proposed rules for directives?

Answer. Our estimates are that both the time required for completing a forest plan and the length of the forest plan will be substantially shortened under the proposed planning regulation in comparison with under the existing planning regulation. One of the factors that will shorten the length of the document is the proposal to focus the forest plan on decisions specific to the individual forest, and not repeat national direction for resource management in the forest plan. This national direction already exists in the agency's directive system which is composed of Forest Service Manuals and Handbooks and by which internal agency policies, practices and procedures are established, issued and stored.

In reviewing the existing regulation, the agency considered the relative roles of the planning regulation and the agency directive system. The review indicated that the regulation is better suited for defining the purpose and desired results of planning and the minimum standards for planning than for giving detailed procedural guidelines. As a result, some streamlining of the regulation has been achieved in the proposed rule by shifting detailed procedural direction to agency directives. To implement the revised regulation, the agency plans to reorganize and revise its directives related to forest planning. Subject to the procedures in 36 CFR part 216, substantive revisions to planning direction in Forest Service Manual Chapter 1920 will be made available for public review and comment prior to being adopted. The proposed planning regulation was released for public review and comment until July 12, 1995. After public comment has been analyzed, a final rule will be developed and agency directives will be revised to complement the final rule. The Forest Service Manual Chapter 1920 (part of the agency's directive system) will be available for the Congress and the public to review at that time.

TIMBER MANAGEMENT - SALVAGE SALES

441. Question. As you are well aware, your agency will be directed to get moving on salvaging some timber. It is too bad that it takes Congressional action to get you to do what you should be doing. Will the Forest Service be able to meet the volumes in the House version of the salvage rider?

Answer: Full implementation of the bill would add an additional salvage volume of 826 million board feet to the planned 1.574 billion board feet (BBF) in FY 1995. In FY 1996 the bill would require an additional 1.552 BBF in addition to the planned 1.449 BBF. In FY 1997 the bill would require an additional 250 million board feet in addition to the 1.5 BBF planned. In total, this would add up to the two-year volume requirement of 6 billion board feet. (Conference action on this amendment extended the salvage period through fiscal year 1997 and estimates an additional 3.75 billion board feet for fiscal year 1995 through 1997.)

The average salvage volume for the past five years has been 1.8 BBF so the amendment would require nearly doubling that amount. The amendment also has a timing requirement for offering the salvage for sale. Half of the first year's volume of 3 BBF would have to be offered within 90 days of enactment of the bill. Even with the procedural and other relief given in the amendments, it is very doubtful that the Forest Service organizationally could meet this time frame. Regions and Forests have made preliminary estimates on salvage volumes and available organizational capability under the rescission amendments. There is a lot of uncertainty about some of the provisions, such as, how successful we might be in hiring back retirees or our ability to contract for services. This expedited review resulted in an initial estimate that, under the rules of the Taylor salvage amendment, we have the organizational capability to prepare and offer about 5.4 BBF during the full three-year period FY 1995-97.

442. Question. We hear from many sources that Forest Service has billions of board feet of timber that has been damaged in one form or another. Do you have any numbers as to how much dead timber you have that is feasibly available?

Answer: The estimated volume of salvage that is organizationally feasible is 5.4 billion board feet through the end of FY 1997. The 5.4-billion board foot level is the amount estimated that can be prepared and sold with the assumption that we will meet the substantive requirements of applicable environmental laws. It assumes that the requirements for interagency consultation with the Fish and Wildlife Service, National Marine Fishery Service, State Historic Preservation Officers, and other federal and state agencies are eliminated. It also assumes that the administrative efficiencies provided in the Salvage Amendment will be implemented. They include: 1) BEs and EAs will be combined and no EISs will be done; 2) EAs will conform to CEQ guidelines and be 10-15 pages in length; 3) Public comment period on EAs will be limited to 10 days (the Salvage Amendment is silent as to public comment); 4) BEs and EAs will use existing information; 5) Administrative appeals are suspended; and 6) Salvage amendment authorities for expedited fire emergency contracting procedures and rehire of "buyout" employees will be used. With these assumptions, this is the estimated organizational capability to produce salvage.

There is uncertainty with the volume estimate and until the sale layout and cruises are completed one should not rely on the estimate as absolute.

FOREST HEALTH

443. Question. We hear a lot of the forest health crisis throughout the interior west. Besides salvaging the dead timber, what action is the Forest Service taking to improve the health of forests?

Answer. The Forest Service is carrying out thinnings, selective harvesting, fuels treatments, insect and disease suppression, salvage and other activities to reduce the susceptibility of the forests to attack by insects, disease, drought, and catastrophic wildfire. In addition, forest health professionals are exercising an increasing role ecosystem management and other planning activities to assure that forest health is fully considered in future management activities.

LAW ENFORCEMENT

444. Question. It's been some time now since the Forest Service instituted the new law enforcement organization. Some of my constituents feel that some of your law enforcement officers go too far at times. When this occurs, more fuel gets added to the anti-government fire. In your view, how is this organization working? Has the Forest Service done any monitoring to determine if the new organization has improved law enforcement?

Answer. The new straight-line organization for the Law Enforcement and Investigation Program went into effect during FY 1994. The new organization is working well. The Law Enforcement Program continues to improve as it gets more fully reorganized. The new organization has established a review and analysis program under direct supervision of the Director of Law Enforcement. This will assure consistent review and monitoring of all investigations and enforcement operations. In March of this year, the Chief held a special meeting with law enforcement personnel and line officers. This meeting was to continue to facilitate the reorganization and improve communication and integration of the program. The program now has investigative independence and is free from allegations of interference and improprieties. Also professional standards and guidelines are now in place improving the program's role in supporting resource management activities and ecosystem protection.

FIREFIGHTING

445. Question. What changes has the Forest Service initiated in the firefighting program so that the terrible tragedies of last year are not repeated?

Answer. All of the accidents that occurred last fire season have been investigated to determine causes. Improvements on the part of management and firefighters alike are being made. The Forest Service, the other federal wildland fire management agencies and our state forestry partners have been an integral part of the problem analysis and in developing the corrective actions.

Extensive amounts of time and organizational energy have been committed to improving the safety of fire and aviation operations. Many action plans have been written assigning specific corrective actions to individuals. All have been implemented or are in the process of being implemented. For the Forest Service, the many changes can be summarized into three areas:

Creating a Passion for Safety - Top level management has taken a strong leadership position to reaffirm that firefighter safety is the first and highest priority job for all firefighters. The message has been communicated through the FS organization to the firefighters themselves. A national Firefighter Safety Workshop will be held during May with the other wildland firefighting agencies where top level management will personally tell firefighters the safety message and will open lines of communications with them to make sure the message is understood and internalized.

Roles, Responsibilities and Accountability - Accountability of management and individual firefighters to carry out defined roles and responsibilities has been emphasized. All personnel will know their roles and responsibilities for Fire and Aviation Management safety and will be held accountable.

Monitoring - Management will monitor performance of individuals and the organization on all fire operations. Monitoring includes real-time, on-site inspections and post-activity reviews. Outstanding performance will be acknowledged and poor performance will be dealt with appropriately.

TIMBER MANAGEMENT - STEWARDSHIP CONTRACTS & BELOW COST SALES

446. Question. The Forest Service has been experimenting with stewardship or land management contracts, through authorizations included in past appropriations acts. This type of contract allows the agency to conduct several land treatments and timber sales through one contract. Has this approach been successful? Has it improved efficiency in forest Service operations?

Answer. The Forest Service conducted a pilot of land management service projects and provided results to Congress in a June 21, 1994 report, "Land Management Services Contracting: A Report To Congress". The study concluded that the land management services contracting concept provides opportunity to increase contracting efficiencies, improve the quality of the on-the-ground work and, in some instances, decrease unit costs. The review also indicated that the land management services contract or stewardship contract should be looked upon as another tool to accomplish the resource job and not one to replace existing tools. The Forest Service testified on H.R. 5007, the National Forest Stewardship Contracting Act of 1994, in favor of the concept. There is sufficient experience with this type of contracting that further testing is not necessary.

447. Question. There has been considerable concern that accelerated salvage harvesting will mean more below cost timber sales. We all know that timber stumpage has increased significantly over the past several years. Does the Forest Service continue to have many below cost sales, given the low supply and current market conditions?

Answer. The Forest Service tracks below-cost timber sale programs each year through the Timber Sale Program Information Reporting System (TSPIRS). Due primarily to the increased prices you mention, the recent past has seen a substantial decline in below-cost programs. The following table displays data related to below-cost National Forest timber sales in fiscal year (FY) 1993 compared to FY 1994:

Data Category	FY 1993	FY 1994
Below-Cost Programs (Number of NF's)	47	36
Percent of All NF's Below-Cost	39%	30%
Below-Cost Harvest Volume (MMBF)	1,163	801
Below-Cost Harvest as a % of Total	28%	25%
Net Revenue Loss (Millions of \$'s)	\$42.2	\$19.7

Notes: NF's = National Forests

MMBF = Millions of Board Feet

Data does not include NF's harvesting less than 1 MMBF in the timber commodity component

Below-cost harvest is defined as that harvest producing a net revenue loss in the timber commodity component (harvest primarily designed to provide wood to help meet demand).

In addition to price increases, several national forests have implemented cost-efficiency improvements that are beginning to take effect. Total timber sale program expenses are declining and, assuming timber prices hold, we expect to see further declines in below-cost sales in the future. In addition, as more timber sales are implemented under ecosystem management, we expect to see more timber harvested in the forest stewardship program component, which is not included in the above/below-cost determination.

WILDLIFE AND FISH

448. Question. I continue to be concerned about the Inland Native Fish Strategy and the way it is being forced through with minimal analysis and public comment. At the April 26th Energy Committee Hearing you and George Frampton said this strategy was necessary to avoid listing the bull trout and westslope cutthroat. I don't want to see a listing either. But I question the way this "interim" strategy is being done. It would apply in 5 states, 23 national forests, and cover 26 million acres. Your own people are saying this could affect 35-50% of planned timber sales, including salvage. Grazing, mining, and even fuel reduction activities could be affected. This will have a significant impact on the people dependent on the forests for their livelihood. how do you rationalize such a minimal level of analysis on this issue, why at the same time requiring an EA on every terminating grazing permit?

Answer. As you know, appropriate NEPA compliance must be a part of every Federal agency action, whether it is an Allotment Management Plan, development of a campground, a thinning project for wildlife habitat, or a fisheries conservation plan. The Inland Native Fish Strategy which is currently being developed will provide interim direction for the affected ecosystems until the Eastside and Upper Columbia River Basin EIS efforts are completed (in approximately 18 months). This Environmental Analysis (EA) is a legally defensible approach to provide interim direction until

these EIS's can be completed. The interim direction that will be the end product of this EA will amend Forest Plans. The possible effect of this EA on the economic and social environment will be displayed by alternative. This EA, since it is a non-significant amendment, will not try to revise the entire mix of goods and services projected by the Forest Plans. The needs of local communities and economies will be considered in the rationale for selection of the final alternative.

The process being employed to develop the Inland Native Fish Strategy meets all regulations and manual directions for issuing a non-significant amendment to a Regional Guide and/or Forest Plan (36 CFR 219.8(f) and 219.10(f)) and in no way should be construed as "minimal" compliance. An EA is initially being prepared rather than an EIS because it is our belief that it will be determined to be a non-significant Federal action. This belief stems from the fact that the strategy would be in effect for a very limited time (approximately 18 months) and because there will be very few irretrievable or irreversible effects due to this action. On the other hand, if the EA were to determine that the action is a major Federal action and/or a significant amendment to the Forest Plans, then an EIS would be prepared or the procedures for significant amendments would be followed.

We believe that the Inland Native Fish Strategy is a critical part of assuring predictable management of the Forests in the Pacific northwest. While the requirements of the EA may affect the development of projects in the short term, the effects of not addressing these issues will result in the inability to plan and carry out Forest management in the long term.

449. Question. Has the Forest Service considered alternatives to the Inland Native Fish Strategy, such as IDAFISH or Fish 2000, that would be less prescriptive and still ensure full-functioning riparian areas through site specific planning?

Answer. The Forest Service is making every effort to collect all pertinent information and data relating to inland native fish management and conservation--including the IDAFISH or Fish 2000 proposal. In addition, the Forest Service is actively seeking information and comments from Federal, State, and local agencies along with other individuals and organizations. A public-scoping brochure was mailed out to over 5,000 individuals and organizations. The information gathered from these comments and the issues raised will help the Inland Native Fish Strategy team develop a broad range of alternatives which are available to the decisionmaker.

450. Question. What is the status of the "bear box" regulations and special orders requiring backcountry users to carry bear boxes? This is exactly the type of senseless regulation we don't need. It is one thing to put these out as suggestions, but to require this of people that have been in the woods all their lives and know how to store food around bears, seems ridiculous. This is going to pose an unnecessary expense and burden for no good reason.

Answer. Historically the separation of bears from human foods, both in the backcountry and in and around developed sites, has been one of the more important means of preventing human/bear conflicts.

There are no Special Orders on National Forest System lands that require the use of "Bear Boxes". There are, however, requirements in place, in both the Yellowstone and Northern Continental Divide Recovery Zones (NCDE), that require that all food, garbage, livestock and pet foods and attractants be made unavailable to bears. Approved bear-resistant containers, "bear boxes", are one means of making foods unavailable. Storage in vehicles, suspension from a support structure such as a tree, and storage within approved electric fences are other methods currently approved.

The intent of these requirements is to promote human/bear coexistence. Education and voluntary cooperation are the dominant theme to improve food storage practices.

SPECIAL FOREST PRODUCTS

451. Question. Last years fires will bring on a bumper morrell mushroom season. I understand that tensions are already beginning to mount over issues like inconsistent pricing and permitting. Are the forests geared up to handle this program so that we don't have a repeat of the violence seen in other areas?

Answer. The "tension", which leads to violence, comes from members of the public who believe they have priority to pick mushrooms in particular areas of the National Forests, and subsequently intimidate others to stay out of these areas. This conflict is not due to inconsistencies in pricing or policy. Local Forest Service employees and local law enforcement officials are aware of the issue, and continue to work together to maintain peace through an on-site visible presence and education programs for mushroom gatherers.

Nationally, there is an effort to gain some consistency in the pricing of mushrooms. However, price is very area sensitive and volatile depending on competing supplies. High prices are usually short lived each season.

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

452. Question. What are the Forest Services' "Standards and Guidelines" referenced by Undersecretary Lyons during the hearing? What is their base authority? By what process are they developed? Provide documentation of all Standards and Guidelines that pertain to timber production in the Tongass National Forest. Provide existing and previously published standards/guidelines, as well as draft guidelines if any, applicable from 1987 to 1996.

Answer. Existing Forest-wide standards, guidelines, and other land management direction elements are provided in the Alaska Regional Guide and the Tongass Land Management Plan (TLMP). In addition, site-specific standards and guidelines are included in each project EIS. Proposed standards and guidelines are included in the 1991 TLMP Revision supplemental draft EIS and draft proposed Plan, and in the draft interim wildlife habitat guidelines in the 1994 draft TLMP amendment EA. Both the existing and proposed standards and guidelines have been developed under authority of the National Forest Land Management Act (NFMA; P.L. 94-588) and the procedure described in the NFMA implementing regulations (36 CFR 219).

453. Question. Please provide documentation of the process used to establish market demand, including a description of how decisions are made. Provide the market demand figures used to comply with TTRA for the Tongass since enactment. Document how the Forest Service has attempted to meet market demand since enactment of TTRA for each fiscal year.

Answer. Section 101 of the Tongass Timber Reform Act (TTRA) requires the Secretary "...to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle."

Forest Service efforts to comply with Section 101 are organized around the two time frames specified: the annual demand for timber and the demand over the planning cycle (10 to 15 years).

Annual Demand - With respect to annual demand, the Forest Service considers the volume of timber actually purchased and harvested by industry each year as the best and most reliable indicator of actual demand for Tongass timber.

Annual demand is more difficult to deal with than demand over the planning cycle for a number of reasons. These include: the volatility of actual demand from year to year, the long time lags involved in the Forest Service budget process, the role that Congress plays in the Forest Service budget process, and the long time lags involved in preparing new timber sale offerings.

For these reasons, we do not try to predict and budget for the actual demand in any specific year. Instead, we approach annual demand with the concept of a "buffer stock". Our approach is to seek to provide an opportunity for the timber industry to acquire a supply of purchased but unharvested timber equal to about three years of average timber consumption. In Forest Service jargon, this "buffer stock" is called "volume under contract." The idea is that if demand for lumber and pulp in any year shoots up, producers will have enough logs on hand to respond to the increase in demand without waiting for the Forest Service or for the Congress to take action.

Changes in the buffer stocks--the volume under contract--serve as signals to the Forest Service to consider adjusting its budget and program of work. When harvest activity reduces volume under contract below target levels, the Forest Service Alaska Region will consider requesting additional funds from the Washington Office, and ultimately from Congress, to prepare additional timber sales. Conversely, when the volume under contract goes above target levels, the Alaska Region will consider decreasing funding requests. The Forest Services' ability to respond in this way will be limited by the fiscal policies established by the Congress and the Administration.

Furthermore we annually prepare a report to Congress on the markets for timber from the Tongass. This report, called "The Supply and Demand for Timber from the Tongass National Forest" is required by section 706(a) of the Alaska National Interest Lands Conservation Act (ANILCA) and has been prepared every year since 1981. It reviews actual production and consumption in Alaska and the principal developments in the Pacific Rim timber market. This report plays a role in evaluating demand in both of the time frames specified by TTRA: demand over the planning cycle and annual demand. With respect to annual demand, it reviews the volume of timber actually purchased and harvested, which is the best and most reliable indicator of actual demand that is available to us. With respect to demand over the planning cycle, it provides information on the extent to which projections of demand are being realized. It also identifies new influences on supply and demand that may need to be taken into account in revising demand projections.

The Forest Service has sought to supply timber from the Tongass to meet the annual demand, as it was expressed by the timber industry in fiscal years 1991 to 1994. The Forest Service offered more timber than was sold and released, and sold and released more timber volume from the Tongass to industry than was harvested by industry, over these years.

Thus we feel the market demand for standing timber from the Tongass NF was met during this period.

The total volumes (sawlog and utility) which were offered, sold or released, and harvested on the Tongass NF were:

FISCAL YEAR	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
OFFERED	397 MMBF	489 MMBF	318 MMBF	337 MMBF
SOLD/RELEASED	405 MMBF	429 MMBF	348 MMBF	268 MMBF
HARVESTED	363 MMBF	370 MMBF	325 MMBF	276 MMBF

(From 1994 Timber Supply and Demand Report, Table A-2)

The above record shows that about 16 percent more timber was offered, and 9 percent more sold and released to industry than was harvested over these four years, at prevailing stumpage prices. Forest Service estimates of the available unharvested volume under contract at the end of each successive year was 366, 312, 400 and 326 MMBF (sawlog and utility volume). They do not include any defaulted sales. If at the end of each year the unharvested volumes are added to the new volume offered, approximately a two-year supply of volume from the Tongass was available for harvest to the industry annually.

Demand Over the Planning Cycle - Market studies done by the Forest Service's Pacific Northwest Research Station are relied on to establish expectations about demand over the planning cycle (10-15 years). New demand projections are done on a fairly regular basis.

The three most recent PNW publications (all by Richard Haynes and David Brooks) since 1990 are: "An Analysis of the Timber Situation in Alaska: 1970-2010", August 1990; "Timber Products Output and Timber Harvests in Alaska: Projections for 1989-2010"; and "Timber Products Output and Timber Harvests in Alaska: Projections for 1992-2010", June 1994. The derived demand for National Forest timber in the latest report is projected to stay around 330 million board feet in the 1990's and in the following decade, under a one pulp mill scenario. The projection increases from about 420 million board feet in the 1990's to about 480 million board feet in the following decade, under a two pulp mill scenario.

In part because of the statement regarding demand in TTRA section 101, we commissioned an independent study by a private consulting firm, the Irland Associates, in 1991. The purpose of the study was to provide advice to the Forest Service on the interpretation and application of the economic theory of demand in the specific context of Tongass timber markets and to make projections of demand for timber from the Tongass. The Irland Group report, titled "Timber Demand Scenarios for Tongass National Forest, 1991-2010", was published in 1992 and made available to all interested parties, including timber industry representatives.

We also have carefully reviewed demand studies done by third parties, such as the study done by Gruenfeld Associates for AFA in 1991 (Demand for Alaskan Logs and Lumber in the 1990's, Report to the Alaska Forest Association by Jay Gruenfeld Associates, Inc., November 11, 1991). The 1994 Forest Service PNW publication by Brooks and Haynes discusses the Gruenfeld AFA report at some length (page 10), noting that the critical difference between their projections and the Gruenfeld AFA projections is in the assumption regarding Alaska lumber exports to Japan. Brooks and Haynes provide a rationale for the position they take on the matter.

Using the demand studies, and other available information, the decision about how the Forest Service will seek to supply timber to meet timber demand over the planning cycle is made as part of the forest planning process carried out under the National Forest Management Act (NFMA) and other applicable laws. This is currently being done through the on-going Tongass Plan revision process.

The revision process develops and evaluates alternative forest-wide management plans for the Tongass. Each alternative approaches timber demand in a different way. The alternatives also provided different levels of other forest resources, different approaches to compliance with other aspects of laws that govern the National Forest, and different levels of risk for compliance with mandatory standards, such as water quality standards and maintenance of viable populations of wildlife species. This decision ultimately involves a subjective balancing between meeting Tongass timber demand and the best approach to providing for the multiple use and sustained yield of all renewable resources in compliance with all of the laws and regulations that pertain to the Forest.

The TLMP makes no decisions to actually supply timber to meet demand. The plan is more like a zoning ordinance that creates opportunities for use of the Forest but makes no commitment to action. The plan actually establishes, by law, an allowable sale quantity for timber (ASQ) that is an upper limit on the amount of timber that may be commercially harvested from the forest during the decade. This ASQ may be greater than or less than the demand estimate that Forest Service researchers, or anyone else, has made. Other provisions of the forest plan establish areas where commercial timber harvest is authorized, but not mandated.

Note: The above subpart dealing with Demand Over the Planning Cycle also answers Question 455.

454. Question. Please provide the number of administrative appeals and lawsuits related to timber sales involving the Forest Service from 1987 to present, by fiscal year. Provide estimated Forest Service costs associated with all timber sale appeals by fiscal year from 1987 to present. Do not include appeals not directly related to timber sales. Include a listing of each appeal and its estimated cost for all appeals associated with the Tongass National Forest.

Answer. The following table provides the information we have regarding this question. The table displays appeals and litigation related to timber sale activities in the Region during FY 1987-1995 in response to the first two parts of the question. The costs per fiscal year are strictly estimates based on the total costs for all appeals and litigation in the Region. Seven cases which had been initiated earlier than FY 1987, but which were still pending resolution, are included in the cost estimate for FY 1987.

**R10 Timber-related Appeals and Litigation Costs
FY 1987-1995**

<u>Fiscal Year 1/</u>	<u>Cost Estimates/FY 2/</u>
FY 87	\$ 649,500

Appeals

APC 86-90 Operating Period #1891	
APC 86-90 Operating Period #1893	
APC 86-90 Operating Period #1895	
APC 86-90 Operating Period #1897	
APC 86-90 Operating Period #1898	
APC 86-90 Operating Period #1904	
APC 86-90 Operating Period #1913	
APC 86-90 Operating Period #1914	

Cases

APC v. US

Cases

APC v. US

FY 88	\$ 772,500
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Appeals

None

Fiscal Year 1/Cost Estimates/FY 2/Cases

Tenakee Springs v. Block/Hanlon V. Barton
KPC v. US

FY 89\$1,130,000Appeals

KPC 89-94 Timber Sale (6 separate appellants)

Cases

Stein v. Barton
.....

FY 90\$ 272,217Appeals

APC TM Contract Appeal (1 appellant)
APC FSEIS 81-86 & 86-90 Operating Period (3 appellants)
KPC Long-Term Sale ROD Addendum (1 appellant)

Cases

KPC v US

FY 91\$ 247,500Appeals

Frosty Bay Timber Sale (1 appellant)
North Sea Otter Sound Timber Sale (1 appellant)
Shelter Cove Timber Sale (1 appellant)
Salt Lake Timber Sale (1 appellant)
KPC Contract Unit 527-102 (1 appellant)

Cases

Mitkof Lumber Co v. US

FY 92\$ 235,000Appeals

Kelp Bay Timber Sale (1 appellant)
Starfish Timber Sale (1 appellant)
Bohemia Mountain Timber Sale (1 appellant)
Salt Lake Independent Timber Sale (1 appellant)

Cases

ALP v. US (CDA) 83-301, 91-175/176R, 88-3742, 85-255

FY 93\$ 420,000Appeals

SE Chichagof Timber Sale (1 appellant)
N & E Kuiu Timber Sale (1 appellant)
Central Prince of Wales Timber Sale (5 appellants)

Cases

The Wildlife Society, et al. v. Janik (Kelp Bay)
APC v. US

Fiscal Year 1/Cost Estimates/FY 2/FY 94

\$ 600,000

Appeals

North Revilla Timber Sale (3 appellants)
 North Irish Timber Sale (1 appellant)
 Bohemia Mountain FSEIS Timber Sale (1 appellant)

Cases

AFA v. US
 AWRTA v. Morrison
 SEACC v. Rittenhouse
 KPC v. US
 KPCs TTRA Claim (Pending Litigation)

FY 95

\$1,066,000 3/

Appeals

Ushk Bay Timber Sale (2 appellants)

Cases

APC v. US
 AWRTA v. Morrison (appeal to 9th Circuit)
 In re: Alaska Pulp Corp.
 APC's \$Billion claim before the Contracting Officer

Related Information:

TOTAL REGION 10 COSTS FOR ALL APPEALS AND LITIGATION CASES 1/
 FY 1987-1995

COSTS (M\$)

	<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u>	<u>FY91</u>	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>
REGION 10	1197/1	1420	2180	343	201	164	271	439	1066/2
OGC JUNEAU 4/	102	125	160	281	141	170	216	228	265
TOTAL	1299	1545	2340	624	342	334	487	667	1321

Staffing

In 1986 the Region had one full-time Environmental Coordinator and one OGC attorney with staff support. Since that time the Region has added four paralegals and OGC has added two attorneys.

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- 1/ Includes all timber, other resource, and criminal appeals and litigation cases; listed in the FY they were initiated.
- 2/ All costs are estimates based on the total costs for all appeals and litigation in the Region; includes the cost of the APC 86-90 appeal, TLMP record certification, and Upper Game Creek.
- 3/ Includes costs of APC/KPC litigation team.
- 4/ Includes OGC Juneau costs for all litigation/appeals/other legal services to R10.

455. Question. Describe the process currently drafted for inclusion in the TLMP revision that discusses how to determine market demand.

Answer. The second part of our answer to question #453 regarding demand over the planning cycle addresses this topic. We will follow our current procedures for estimating market demand and using this information in the TLMP revision process.

QUESTIONS SUBMITTED BY SENATOR PATRICK LEAHY

NORTHERN FOREST LANDS COUNCIL

The Forest Service supported a four-year comprehensive ecosystem-based forest planning project that sought to develop a conservation and economic plan for mixed ownership lands in Maine, New Hampshire, Vermont, and New York.

The Northern Forest Lands Council cost much less than the President's forest plan cost, it was much less divisive, and will cost much less to implement. Ultimately, it may serve more people since almost a quarter of our nation's people live within a day's drive of the Northern Forest.

A cost-benefit analysis would probably show clear justification for strong funding for a Northern Forest lands strategy -- perhaps stronger justification than other Forest Service projects.

I intend to introduce legislation to implement the recommendations of the Northern Forest Lands Council which specifically ask the federal government to be a partner for certain measures.

456. Question. Will you work with me to implement and fund measures that this planning effort have requested?

Answer. If legislation is passed to implement the recommendations of the Northern Forest Lands Council, the Forest Service will work to implement and fund the measures requested. We also support the continued use of existing authorities and funds to address the Northern Forest Lands Council goals. The level of funding and degree of involvement will have to be assessed in light of overall budget constraints and downsizing that the Forest Service may face in FY 1996 and beyond.

VERMONT COOPERATIVE RESEARCH UNIT

The Forest Service has been a long-term partner at the Vermont Cooperative Research Unit with the State of Vermont, the University of Vermont and other partners.

I have been working with the Forest Service to increase the funding to this cooperative effort in order to carry out the agreement reached several years ago to expand monitoring to the Lye Brook Wilderness Area.

The State Cooperatives are an effective way for Forest Service to leverage more research dollars for projects that are more closely tied to practical research needs. The State/federal partnership seems more productive in many ways than the straight federal research.

457. Question. How much is appropriated for the Vermont Cooperative Research Unit? How much does each dollar appropriated for cooperative research leverage from other sources? Will the Forest Service prioritize the State cooperatives over the in-house research, particularly over Forest Service research that can be accomplished in the private sector?

Answer. The 1996 President's Budget includes \$100,000 to be allocated to the Vermont Monitoring Cooperative from the Northeastern Forest Experiment Station, for research on forest health issues.

While all cooperators contribute 'in-kind' services such as assisting in the publishing of reports and summaries, data collection, and monitoring site maintenance, the Forest Service is the only cooperator to make direct cash contributions to the Cooperative at this time.

We prioritize our programs including in-house research, cooperative agreements and grants, and other expenditures according to the research needs of our customers. This process takes into account the most efficient environment for conduct of the research.

VERMONT/NEW HAMPSHIRE DECENNIAL FOREST SURVEY

In the near future, the Forest Service will begin the decennial forest survey that measures forest health and species composition across all ownerships in the state of Vermont. This is a critical study that is done nationwide on a rotating basis. The data is used by resource managers and scientists to accurately determine the management measures necessary to assure long-term forest productivity.

458. Question. When does the Forest Service plan to begin the decennial survey? How much money is necessary, and for how many years?

Answer. Pre-field photo interpretation for the Vermont and New Hampshire surveys, which are conducted concurrently, should begin later this year and all fieldwork should be completed during the 1996 field season. Current estimates place the funding requirement for the Vermont portion of the inventory at \$1.45 million for one year.

FOREST SERVICE REORGANIZATION

Several Senators have raised strong concerns about the Forest Service Reinvention Plan. I want to be supportive of a plan that cuts costs and improves services. However, I have not seen evidence to suggest that either of these goals will be met effectively.

One of the most important parts of the Forest Service in eastern states is the State and Private Forestry Programs. The Northeastern Area Office has been especially effective in serving the interests of these States.

459. Question. Will the reinvention plan reflect the Northeast's strong interest in the State and Private Forestry Program? Will

the Administration continue to solicit the views of authorizing committees to help achieve the dual goals of better service and significant savings.

Answer. Yes. Our plan to create Regional Leadership Teams with co-equal leaders of State and Private Forestry, Research, Operations, and National Forest System gives increased emphasis to State and Private Forestry considerations in resource planning and management. This is especially important in the Eastern U.S. where non-federal lands are such a significant part of the forest resource base.

We will continue to involve all concerned committees as we move forward with plans to create a Forest Service that works better and costs less. Secretary Glickman sent the revised restructuring plan to the Congress on June 7, 1995. The timing of the Secretary's confirmation and his commitment to personally review the original proposals in light of numerous comments received necessitated the delay.

FOREST SERVICE APPEALS

460. Question. What was the total volume offered under the new appeals regulation?

Answer. The new appeal regulation took affect January 3, 1994. Between December 31, 1993, and March 31, 1995, the following volumes were offered for sale by region:

Region 1	248	million board feet
Region 2	221	
Region 3	72	
Region 4	267	
Region 5	344	
Region 6	400	
Region 8	931	
Region 9	491	
Region 10	<u>327</u>	
Total	3,301	million board feet

461. Question. What was the total volume of timber appealed under the new appeals regulation by region?

Answer:

Timber Volume Appealed, MMBF

R-1	R-2	R-3	R-4	R-5	R-6	R-8	R-9	R-10	Total
79	78	32	405*	104	84	100	114	67	1063 MMBF

*265 MMBF of R-4's 405 MMBF is for one EA, Boise River Wildfire Recovery

462. Question. What was the total volume of timber delayed because of administrative appeals under the new appeals regulations by region?

Answer.

Timber Volume Delayed by Appeals, * MMBF

R-1	R-2	R-3	R-4	R-5	R-6	R-8	R-9	R-10	Total
5	3	0	0	0	0	5	2	0	15 MMBF

*These figures represent timber volume that would not be sold in the year scheduled because of delays working through the appeals process.

463. Question. What is the total volume of timber delayed because a lawsuit held up the award of a sale contract?

Answer. 86 MMBF (lawsuits are anticipated on 300 MMBF)

464. Question. Please provide answers to the previous four questions substituting the "number of timber sales" instead of "total volume of timber".

Answer.

R-1	R-2	R-3	R-4	R-5	R-6	R-8	R-9	R-10	Total
Number of Timber Sales Appealed									
11	14	12	28	10	44	80	50	1	250 Sales
Number of Timber Sales Delayed by Appeals*									
2	3	0	0	0	0	3	2	0	10 Sales

*These figures represent timber sales that would not be sold in the year scheduled because of delays working through the appeals process. Not included are sales in which a decision was withdrawn upon review of an appeal (due to NEPA or other legal inadequacies).

11 timber sales have been delayed because a lawsuit held up the award of a sale contract (additional lawsuits are anticipated).

464a. Question. Is it possible to assess the amount of timber whose value decreased because of a 105 day delay in harvesting? How much timber was affected and how much value was lost?

Answer. As all field work (including accurate cruises) has not been completed on the proposed salvage sales, an estimate of possible loss due to delay can not be made at this time. Loss usually occurs in the first summer and fall following the damage to the tree. Thus a delay this coming summer for the species most impacted (hemlock, white firs, small ponderosa pine, southern pines, and spruces) might amount to 5-10% of the total economically operable volume or about 600 million board feet. In addition there would be a loss in the larger merchantable material due to increase decay. A range of values lost would be from \$60-80 million dollars.

FOREST HEALTH

In the past few years there has been a lot of interest in forest fires and the degree to which they are inside or outside their historic range of variability. There is also discussion regarding how we can reduce the intensity of forest fires through certain activities funded in the Forest Service budget.

465. Question. Is there any evidence that correlates preferred burn patterns with timber management?

Answer. Generally, recent wildfires in some forests burn more intensely than they did in the same forests 100 years or more ago. Wildfires are especially severe on the hotter, drier sites where significantly increased stocking levels have occurred since fire control and timber production objectives were established. In short-interval fire-adapted ecosystems, periodic surface burning acted to control understory stocking which, in turn, reduced live fuel loading and stand flammability. Some timber management practices (e.g. pre-commercial thinning) result in a similar effect but are not a total substitute for the role of fire in forest health. Low-intensity prescribed burning affects the function of fire-adapted ecosystems by cycling nutrients and controlling pathogens.

466. Question. Can you provide Forest Service data that proves the decline in forest health and the increase in tree mortality on national forest lands compared with lands of other ownerships?

Answer. We are not sure we know what you mean by "proves the decline ...". However, we do have data that compares the changes in mortality among ownership categories. The most recent Forest Service inventory data (1991) indicate that annual tree mortality on timberlands of all ownerships in the U.S. is 5.5 billion cubic feet (an increase of 25% from the previous mortality figures of 4.4 billion cubic feet in 1986). The distribution among land ownership categories is as follows:

Annual mortality (billion cubic feet)

<u>Ownership</u>	<u>1986</u>	<u>1991</u>	<u>% change</u>
National Forest	1.1	1.2	9
Other Public	.5	.6	20
Forest Industry	.6	.8	33
Nonindust. Private	2.2	2.9	32
All lands	4.4	5.5	25

The source of the information is the Forest Service publication Forest Resources of the United States, 1992 (General Technical Report RM-234). We would be happy to provide you a copy if you wish.

467. Question. There continues to be conflict surrounding the management of the Tongass National Forest. One possible solution is the establishment of a forest plan that reflects the interests of the people in the area based on the capabilities of the forest. I understand the forest plan has been in the works for almost seven years. Is there enough money in the budget for the Forest Service to complete the forest plan revision by the end of fiscal year 1996?

Answer. Development of a Final revised plan has been delayed due to the emergence of new issues and controversial information relating to wildlife habitat to ensure species viability, fish habitat protection measures, cave and karst management, alternatives to clearcutting, and social and economic effects of resource management.

Our schedule calls for the revision to be completed in June 1996. The budget proposed appears to be adequate for this schedule.

INTERNATIONAL FORESTRY

468. Question. I understand the international forestry program finds its greatest support coming from forest product companies, especially those that buy and sell timber and forest products on the global market. Why are these companies so supportive?

Answer: We quote from a letter which Mr. Ivens Robinson, President of Robinson Lumber Company, New Orleans, and President of the International Wood Products Association, wrote to the Secretary of Agriculture in February, 1995:

"We understand that serious consideration is being given to severe budget cutbacks, or possibly complete elimination, regarding the International Forestry Division of the U.S. Forest Service. On behalf of the many members of the International Wood Products Association, affiliated associations, and the international forest products industry, we urge you, in the strongest possible terms, to retain full funding for the critical work of this unit.

The International Forestry division provides crucial services that are not available or forthcoming from any other U.S. Government agency. This unit has achieved, and it maintains, a level of expertise, experience, interest, and skill that one would be hard-pressed to match anywhere else in Washington.

For example, this division has provided, and continues to provide, essential leadership in a number of international arenas, most notably as key players on the U.S. delegation to the International Tropical Timber Organization (ITTO). The International Forestry group also played a critical role in the development of criteria and indicators for the sustainable management of temperate and boreal forests. This effort has been recognized around the world as an example of initiative, cooperation, and insightful long-term thinking that should be emulated in other discussions of sustainable natural resource management.

Additionally, the work of the International Institute for Tropical Forestry in Puerto Rico repeatedly has been of great use to forestry professionals and the forest products industry worldwide. Their 1994 study on Mahogany brought some much-needed science and common sense to the deliberations of the Ninth Conference of Parties to the Convention on International Trade in Endangered Species (CITES)."

The Forest Service has influence in international policy negotiations because of our small but effective international cooperation program, especially in the "focus countries" of Brazil, Indonesia, Mexico, and Russia. Together with Canada and Japan, with which the Forest Service engages in ongoing policy consultations, these countries dominate the trade in forest products. Our cooperative programs provide the U.S. with the credibility to play a decisive role in ensuring that U.S. interests are protected in the international forestry arena.

STATE AND PRIVATE FORESTRY

469. Question. How do the State and Private Forestry programs meet the interests of the 104th Congress, such as management incentives, an non-regulatory approach to policy, private property values, private property rights, property tax burdens for timber land, and timber availability?

Answer. The programs of State and Private Forestry are delivered through State Forestry agencies. The programs are nonregulatory in nature when it comes to achieving national policy objectives. The programs are also voluntary in nature and care is taken to respect private property values and private property rights. Programs such as Forest Stewardship and the Stewardship

Incentive Program are designed to improve the value of forest resources from private nonindustrial forest lands, for the owners, for their communities, and for the nation. None of the programs create tax burdens for timber land on the part of nonindustrial forest owners. In fact, the cost-shares received under the Stewardship Incentive Program are not treated as income and thus are exempt from federal and state taxes.

With the decline of timber available from federal lands, State and Private Forestry programs have a major role to play in future timber availability as they provide assistance in preharvest planning (which helps protect residual stand quality for future harvest as well as soil and water quality), timber stand improvement, and reforestation. In addition, they also are designed to assist landowners with protecting key environmental values important to society (e.g. wildlife habitat and the protection of riparian areas, fisheries habitat, and soil and water quality).

SUBCOMMITTEE RECESS

Senator BENNETT. I thank you very much. The subcommittee will stand in recess until 10 a.m., Thursday, May 11, when we will receive testimony from the Department of Interior on the Bureau of Indian Affairs, fiscal year 1996 budget request.

[Whereupon, at 11:14 a.m., Tuesday, May 2, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, May 11.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1996

THURSDAY, MAY 11, 1995

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:58 a.m., in room SD-116, Dirksen Senate Office Building, Hon. Robert F. Bennett presiding.
Present: Senators Bennett and Burns.

DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS

STATEMENT OF ADA E. DEER, ASSISTANT SECRETARY FOR INDIAN AFFAIRS

ACCOMPANIED BY:

OSCAR W. MUELLER, JR., DIRECTOR, OFFICE OF CONSTRUCTION MANAGEMENT

MARY ANN LAWLER, DIRECTOR, OFFICE OF BUDGET, DEPARTMENT OF THE INTERIOR

HILDA A. MANUEL, DEPUTY COMMISSIONER OF INDIAN AFFAIRS

JOHN W. TIPPECONNIC, III, DIRECTOR, OFFICE OF INDIAN EDUCATION PROGRAMS

DONNA M. ERWIN, ACTING DIRECTOR, OFFICE OF TRUST FUNDS MANAGEMENT

JOANN SEBASTIAN MORRIS, ACTING DIRECTOR, OFFICE OF TRIBAL SERVICES

GARY V. CECCUCCI, CHIEF, DIVISION OF PROGRAM DEVELOPMENT AND IMPLEMENTATION

HAROLD MONTEAU, CHAIRMAN OF THE NATIONAL INDIAN GAMING COMMISSION

JANA McKEAG, ASSOCIATE COMMISSIONER

FRED STUCKWICH, EXECUTIVE DIRECTOR

TOM ACEVEDO, CONGRESSIONAL AFFAIRS

MICHAEL COX, GENERAL COUNSEL

BUDGET REQUEST

Senator BENNETT. This is the time scheduled for the Subcommittee on the Department of Interior and Related Agencies to hear testimony regarding the fiscal 1996 budget request for the Bureau of Indian Affairs and associated programs for American Indians and Alaska Natives within the Interior Department.

Testifying this morning on behalf of the Bureau will be the Assistant Secretary for Indian Affairs, Ms. Ada Deer. Also attending this meeting is the Acting Director of the Office of Construction Management, Mr. Oscar Mueller, and the Chairman of the National Indian Gaming Commission, Mr. Howard Monteau.

Madame Secretary, if you want to introduce the others who are with you at the table at the appropriate time, we would be happy to have you do that.

Members of the subcommittee may have questions affecting the programs for which the various witnesses are responsible, so we would ask that all witnesses will remain at the table during the questioning period.

For funds subject to annual appropriations, the fiscal year 1996 budget request for the Bureau of Indian Affairs totals \$1.91 billion. This represents an increase of \$163,350,000 over the fiscal year 1995 level of \$1.747 billion.

Within the Operation of Indian Programs account, \$1.16 billion has been requested, which is an increase of approximately \$86 million from the current level of \$1.524 billion. Within this amount, education programs increase \$31.5 million above the current level.

For the construction account, the budget reflects a decrease of approximately \$4.6 million from the current level of \$130 million, associated largely with reduced funding for irrigation construction projects.

The request includes \$35 million for new school construction, an increase of \$30.5 million from the current level.

The requested funding will provide an additional \$21.5 million for construction of phase 2 of the Chief Leschi Indian School complex and an additional \$13.5 million to complete the construction requirements of other school projects including the Many Farms School.

For the Indian land and water claims settlements and miscellaneous payments to "Indians" appropriations account, the budget totals \$151 million, including \$136.3 million for separate funding dedicated to developing and implementing Indian water and land settlements.

This is an increase of \$63.2 million above the current level of \$73 million for these settlements, and includes \$34.2 million for the Navajo Indian irrigation project and \$2.3 million for the Southern Arizona Water Rights Settlement Act transferred from the construction account.

Also included in the settlement fund is \$25 million for the Ute Indian rights settlement, \$25.6 million for the Northern Cheyenne settlement, and \$13.7 million for water rights studies and negotiations.

This concludes the opening statement that I have as the acting chairman.

Senator Burns, do you have an opening statement?

Senator BURNS. I do not. Let's begin.

Senator BENNETT. All right.

We welcome you, Madame Secretary. Your prepared remarks will be placed in the record in their entirety. So I encourage you to make whatever summary remarks you think are appropriate. And we would proceed.

We will then turn to the questions the subcommittee will have. I am sure there will be some on BIA programs and then probably a lot of conversation about Indian gaming.

So with that introduction, Ms. Deer, we welcome you and look forward to your coming.

SUMMARY STATEMENT OF ADA DEER

Ms. DEER. Good morning, Senator Bennett, Senator Burns.

I am very pleased to be here and will be presenting the President's fiscal year 1996 budget request for the Bureau of Indian Affairs. I ask that my formal statement be entered into the record.

Senator BENNETT. Without objection.

INTRODUCTION OF ASSOCIATES

Ms. DEER. I want to introduce the other witnesses.

Senator BENNETT. Please.

Ms. DEER. We have Hilda Manuel, the Deputy Commissioner of Indian Affairs; Oscar Mueller, Director of Construction Management; Dr. Tippeconnic, Director of Indian Education Programs; Donna Erwin, Acting Director of Trust Funds Management; Joann Sebastian Morris, Acting Director of Tribal Services; and Gary Ceccucci, Chief, Division of Program Development and Implementation; Mary Ann Lawler, the Director of the Office of Budget, is also present.

I will briefly highlight aspects of the budget request.

Overall, the BIA request totals \$2.4 billion, which includes \$1.9 billion for current appropriations and \$448 million for permanent appropriations and trust funds. I have some charts that will help put the budget request in perspective.

OVERVIEW OF THE FISCAL YEAR 1996 BUDGET REQUEST

The first chart compares the BIA's budget requests over the past 5 years. For fiscal year 1996, President Clinton and Secretary Babbitt are asking the Congress to provide \$1.9 billion in current appropriations, the largest amount ever requested for BIA's programs.

In April 1994 the President met with the leaders of over 300 Indian tribes and Alaska Native villages on issues of national policy toward native Americans.

This historic meeting was followed by the National American Indian Listening Conference that was jointly sponsored by the Department of the Interior and the Department of Justice in May 1994. Representatives from more than 200 Indian tribes attended.

That same month, tribal representatives presented their funding needs and priorities to me at the BIA's fiscal year 1996 national budget meeting. This budget request provides additional resources to respond to many of the priority concerns raised by the tribes at these meetings.

The second chart contrasts the fiscal year 1996 budget request to the enacted fiscal year 1994 and fiscal year 1995 appropriations. This request is \$163.4 million more than the fiscal year 1995 appropriations and \$131.7 million more than the fiscal year 1994 appropriations.

OPERATION OF INDIAN PROGRAMS

The BIA requests \$1.6 billion for the "Operation of Indian Programs [OIP]" account, an increase of \$86 million more than the fiscal year 1995 enacted level. Some of the highlights are: Tribal priority allocations [TPA]—tribes will be able to set their own program priorities for \$767 million or 48 percent of the total OIP appropriation. In fiscal year 1995, tribal priority allocations accounted for \$521 million, or 34 percent of OIP. This increase is mainly due to the transfer of the contract support and welfare assistance programs into TPA, as recommended by the joint task force on BIA reorganization. Tribes would have the flexibility to manage contract costs and to pursue welfare reform within their TPA allocations.

An additional \$18.3 million is requested in TPA for small and needy tribes, newly recognized tribes, contract support payments, operation of new detention facilities and the Tohono O'odham Tribe to protect the natural resources of its reservation on the United States and Mexico border.

School operations—we are requesting an additional \$32.8 million for the Indian student equalization formula, student transportation, facilities operation and maintenance, administrative costs grants, and new initiatives to enhance tribal departments of education, model schools and statistical reporting by the schools in our system.

Tribal self-governance—An increase of \$6 million is requested for grants to assist tribes to enter into 20 new compact agreements, the maximum number authorized annually.

Child Protection and Family Violence Prevention Act—the budget request includes \$5 million for grants to tribes to better respond to this critical problem in Indian country.

Indian Tribal Justice Act—the request provides \$5 million for start-up grants to develop and improve tribal courts.

BIA management improvements—An additional \$6.4 million is requested to improve land records, trust funds, arts and artifacts management, fire safety coordination, and ADP systems, and training.

CONSTRUCTION

For the construction account, the \$125.4 million requested includes \$30.5 million to complete the Chief Leschi School in Tumacac, WA, and the Many Farms School in Arizona; \$30 million to correct hazardous conditions on five dams in Arizona, Nevada, and New Mexico; \$8.9 million for a new detention facility on the Ute Mountain Ute Reservation in Colorado; and \$4.8 million to improve fire protection in schools and detention facilities.

CLAIMS AND MISCELLANEOUS PAYMENTS

The \$151 million requested for the Indian land and water claim settlements and miscellaneous payments to Indians account includes \$121.8 million to implement enacted settlements, including Navajo and southern Arizona construction projects; \$14.5 million to study and negotiate future water settlements; \$13.7 million for trust fund losses, including reimbursement of individual Indian

moneys account holders for interest lost due to investments in failed financial institutions.

TRIBAL LAND CONSOLIDATION

The administration will propose legislation to authorize the purchase of Indian lands, which have highly fractionated ownership, so that these small interests can be consolidated for tribal development. The request includes \$12.5 million for this tribal land consolidation initiative.

Changes to Indian inheritance laws are also needed to prevent future fractionization of ownership, an issue that divides many Indian families.

BUDGET ACCOUNT PERCENTAGES

The third chart provides a graphic distribution of the fiscal year 1996 budget request. The OIP account comprises about 84 percent of the total request; settlements and miscellaneous payments to Indians 7.9 percent; construction, another 6.6 percent; loan programs, less than 1 percent; and the tribal land consolidation initiative, less than 1 percent.

In November 1994, a national news magazine stated that only 20 cents of every BIA dollar finds its way to the tribal or reservation level. This is not true. Within the OIP account, 85 percent of the funds are distributed for services and benefits at the local tribal level. These include the tribal priority allocations, other recurring programs, and nonrecurring programs which comprise the tribal budget system.

It should also be noted that BIA's central office operations and area office operations account for only 7.5 percent of the total request. This is a small organizational overhead in light of the fact that BIA is also responsible for the management and administration of over \$700 million annually in trust funds, receipts, and reimbursable and transfer accounts in addition to its direct appropriations.

STAFFING REDUCTIONS

The fourth chart shows the distribution of BIA's full-time equivalents, [FTE's] among the agency and school level, central office, and area offices.

The BIA has made significant staffing reductions and realignments to meet the downsizing goals of the administration and to actively promote Indian self-determination. As a result, BIA is more decentralized than most Federal agencies, with over 83 percent of its OIP work force concentrated at the local agency, school, and reservation levels.

This graph shows the impact of self-determination contracts, grants and compacts on BIA's staffing levels. The BIA's FTE's declined from 16,900 in fiscal year 1981 to 13,000 in fiscal year 1993. That was a 22.7-percent reduction over 12 years. BIA expects to lose another 448 FTE's during fiscal year 1994 through fiscal year 1996, even before the streamlining plan is implemented.

As part of the President's National Performance Review initiatives, the BIA will transfer tribal shares of central and area office

resources to tribes that operate Federal programs under Public Law 93-638 contracts, grants and self-governance agreements.

PREPARED STATEMENT

This will result in a major restructuring starting with the consolidation of administrative functions at a single support center in Albuquerque, NM. While the BIA will continue to consult with tribes on its plans, the restructuring must begin immediately to ensure that funds are available for tribal shares.

This concludes my presentation.

Senator BENNETT. Thank you.

[The statement follows:]

PREPARED STATEMENT OF ADA DEER

Introduction

Good morning, Mr. Chairman and Members of the Committee. I appreciate the opportunity to present the President's fiscal year 1996 budget request for the Bureau of Indian Affairs (BIA). The BIA's request totals \$2.36 billion which includes \$1.91 billion in current authority and \$447.8 million for permanent appropriations and trust accounts. The fiscal year 1996 request is \$163.3 million more than enacted in fiscal year 1995 for programs funded by direct appropriations. The fiscal year 1996 request was developed with tribal participation and stresses Indian Self Determination, investments in education, critical infrastructure needs, and the Secretary's commitment to trust fund and trust asset management reform.

OPERATION OF INDIAN PROGRAMS

In 1996, over half of the BIA operating budget will be administered by tribes that elect to operate various BIA programs under self determination contracts and grants, or self governance compacts. BIA's administrative costs are modest; 86 cents of every operating dollar goes directly to the reservations. A total of \$1.6 billion is requested for the Operation of Indian Programs (OIP) appropriation, the BIA's major account. This request continues virtually all the amounts added by Congress last year and provides a net increase of \$86 million over the fiscal year 1995 enacted level. The major program increases are in the areas of Indian education, tribal self-determination, and BIA management improvements.

Education

About one-third of all OIP resources are directed towards providing a quality education for Indian students, to improve future prospects for employment, expand economic opportunities, and enhance community life on Indian reservations. The fiscal year 1996 OIP request provides \$539.4 million for BIA-funded elementary and secondary schools, colleges, and undergraduate and graduate scholarships. The School Operations request totals \$440.1 million, an increase of \$32.8 million, largely to provide for increasing enrollment. Funds of \$22.8 million for the Johnson-O'Malley Education Assistance are provided in the Tribal Priority Allocations program in fiscal year 1996. Funding for the 24 Tribally Controlled Community Colleges is continued at \$27.4 million. The BIA continues the moratorium, adopted by Congress in the fiscal year 1995 Department of Interior Appropriations Act, which prohibits adding any new schools beyond those that will be in the BIA system on September 1, 1995.

Indian Self-Determination

The 1996 BIA budget stresses the resources tribes need to develop strong and stable tribal governments. This continues the Secretary of the Interior's commitment to continue a meaningful Self-Determination policy under which Indian people fully participate in the planning, conduct, and administration of Indian programs and services. This commitment is most vividly demonstrated in the continued growth of the Tribal Priority Allocations (TPA) portion of the BIA's fiscal year 1996 budget of \$766.6 million or almost half (48 percent) of the BIA operating budget. TPA is increased by \$245.6 million over 1995, mainly due to the transfer of programs totaling \$218.0 million into TPA. For the first time, Contract Support for ongoing tribal contracts is included in TPA, providing tribes with the opportunity to better manage their contracts and associated support costs within their TPA allocations. Additional

increases in TPA include \$6.5 million for Contract Support, \$8.4 million for New Tribes, and \$2.0 million for Small and Needy Tribes.

In addition, requests for \$7.0 million in contract support funds for new and expanded tribal contracts and \$7.4 million for Self-Governance grants ensures that the compact tribes receive their negotiated share of the BIA's budget without adversely affecting other tribes. This funding will provide grants to 20 additional tribes authorized to enter into funding compacts in fiscal year 1996.

Public safety and justice

As authorized in the Indian Tribal Justice Act of 1993, the BIA budget provides \$5.0 million for start up grants for the development of tribal justice systems. This funding allows tribes to address their law enforcement concerns while at the same time recognizing their inherent authority to establish their own form of tribal judicial systems.

Child protection and family violence prevention

The 1996 budget request includes \$5.0 million to initiate a child protection and family violence prevention grant program, first authorized in the Child Protection and Family Violence Prevention Act enacted in 1990. The Senate is considering proposed legislation that would reauthorize this program through fiscal year 1997. Tribes will use the grants to establish programs to protect Indian children and reduce family violence in Indian country.

CONSTRUCTION

The fiscal year 1996 request for the Construction appropriation is \$125.4 million, a reduction of \$4.6 million below the fiscal year 1995 enacted level. Over half of the request (\$69.2 million) is for Education Construction. That is an increase of \$21.9 million over 1995 which reflects the importance of continued funding for school construction projects as well as critical school repair projects that can be accomplished in 1996. In the 1996 request, New School Construction is funded at \$35.0 million, \$30.5 million over fiscal year 1995. This increased funding provides \$13.5 million for the construction of the Many Farms School in Arizona and \$21.5 million to complete the Chief Leschi School in Washington State. They are ranked fourth and eighth on the New School Priority List which is currently limited to 16 schools. The six other schools on the first half of the Priority List are either completed or are scheduled for 1995 construction. Education Facilities Improvement and Repair program is funded at \$31.2 million, a level compatible with BIA's anticipated progress in obligating FI&R funds.

The Budget also requests \$8.9 million to construct the new Ute Mountain Ute Detention Facility in Colorado. Fire protection and prevention capabilities will be enhanced by the \$4.8 million requested which will fund improvements such as new alarm and sprinkler systems in schools and detention centers.

The BIA budget includes \$30.0 million for the Safety of Dams program, an increase of \$12.0 million over fiscal year 1995. This increased funding will accelerate the correction of structural deficiencies of high hazard dams on Indian lands.

INDIAN LAND AND WATER CLAIMS SETTLEMENT AND MISCELLANEOUS PAYMENTS TO INDIANS

The \$151.0 million requested for this appropriation includes \$136.3 million for Indian Land and Water Claims Settlements. The fiscal year 1996 settlement payments, an increase of \$19.8 million over fiscal year 1995, continues payments for legislative settlements resolving long standing tribal claims to water and lands. The program continues those payments for nine settlements as well as the Navajo Indian Irrigation Project and water rights negotiation and litigation studies. Program increases include \$7.6 million to ensure the Navajo Indian Irrigation Project continues on schedule and \$8.7 million for continuation of the Tongue River Dam Project as required in the Northern Cheyenne Settlement Act of 1992.

TRIBAL LAND CONSOLIDATION

The fiscal year 1996 budget request includes \$12.5 million to purchase highly fractionated interests in Indian lands pursuant to a legislative proposal which deals with one of the effects of the General Allotment Act. As allotted land held in trust has passed from generation to generation, ownership has often been divided among increasing numbers of heirs which diminishes the economic utility of Indian lands. The ownership interests, which continue to fractionate at a geometric rate, have complicated and overextended the BIA's realty, land records, and accounting man-

agement systems that support its responsibilities as trustee of Indian lands. The Bureau will submit its legislative proposal to the Congress upon completion of its consultation with tribes and individual Indians.

TRUST FUND AND TRUST ASSET MANAGEMENT REFORM

The Secretary's fiduciary responsibility for over \$2.0 billion in tribal and individual Indian trust funds requires an even higher level of care than the traditional fiduciary. The Secretary is required to invest funds in the highest interest bearing securities allowed under law, while at the same time maintaining their safety. The Department and the BIA have been aggressively pursuing improvements in trust funds management over the past year, as well as improvements in the management of underlying ownership records and natural resources, in accordance with the Secretary's reform plan. The fiscal year 1996 request provides the necessary funding to continue these efforts as well as fulfill the requirements of the recently passed American Indian Trust Fund Management Reform Act (Public Law 103-412).

To fulfill requirements of the Act, \$12.7 million is included in the fiscal year 1996 request to reimburse individual Indian account holders for retroactive interest relating to principal losses incurred between 1984 and 1988 as a result of investments in failed financial institutions; and, the resources necessary to begin provision of technical assistance for development of tribal investment plans are included in the funds requested for the Office of Trust Funds Management.

The fiscal year 1996 request of \$7.2 million will continue funding for land records improvement at an increased level. This initiative, which began in 1993, will automate existing manual processes required for land title and records functions, as well as continue to reduce backlogs.

NATIONAL PERFORMANCE REVIEW

As you know, the President's fiscal year 1996 budget requested \$2.36 billion for our agency. At the same time, as part of the President's Reinventing Government Initiative, all federal agencies are reexamining their mission. This includes: addressing the mission based on "customer" input; asking whether the mission could be accomplished as well or better without federal involvement; looking for ways to cut costs or improve performance through competition; and ways to put customers first, cut red tape, and empower employees. We are actively participating in this effort and will be keeping the Committee fully apprised of our review.

The Department of the Interior Management Council approved four re-invention laboratory projects designed to improve the delivery of services to Indian tribes and individuals. They are (1) streamlining the non-procurement contract award process; (2) streamlining the Housing Improvement Program; (3) establishing a partnership with other federal agencies for a one-stop service delivery approach currently in place for the Oglala Sioux Tribe that could be expanded to other tribes in South Dakota; and (4) developing an advanced approach for the collection and distribution of lease income for individual land owners on the Standing Rock Reservation.

Also, the BIA has developed a Customer Service Plan to improve performance and responsiveness towards Indian tribes and individuals. The major goals are a 50 percent reduction in program regulations, a reengineering of core business procedures and systems, and giving tribal governments increased decision making authority by 1999. Implementation of customer standards began this year.

BIA'S STREAMLINING PLAN

As part of the President's National Performance Review "REGO" II initiative and in support of full realization of Indian Self-Determination, the BIA will continue to downsize through the acceleration of tribal contracting and compacting of BIA programs. As tribal contracting and compacting of program operations increases, the Bureau's administrative presence will diminish. Accordingly, the Bureau has developed a proposal to provide self governance tribes a share of central and area office functions, and also make available these administrative shares for the contracting tribes, as authorized by the Indian Self-Determination Act and Tribal Self-Governance Act Amendments of 1994. The Bureau's proposal will also retain tribal shares for non-contracting tribes.

The Bureau also plans to streamline the administrative support functions that will remain within the Bureau by consolidating personnel, contracting, procurement and property management and program technical support services at a single support center in Albuquerque, New Mexico.

Within the near future, the Bureau will provide the Congress with a detailed proposal, including budgetary impacts and restructuring plans, that affect the current year as well as the 1996 President's budget.

CONCLUSION

This concludes my opening statement, Mr. Chairman. I and other BIA officials will be pleased to answer questions of the Committee.

BIOGRAPHICAL SKETCH OF ADA E. DEER

Ada E. Deer was nominated by President Clinton on May 11, 1993, to be Assistant Secretary—Indian Affairs. Her confirmation hearing was held before the Senate Committee on Indian Affairs on July 15 and she was confirmed by the U.S. Senate and sworn into office July 16.

Deer became the first woman and sixth person to hold the office since it was created in 1977. She is an enrolled member and former chair of the Menominee Nation of Wisconsin. Deer had most recently served as a senior lecturer at the School of Social Work and American Indian Studies Program at the University of Wisconsin in Madison. She was a candidate for the U.S. House of Representatives in 1992.

Interior Secretary Bruce Babbitt said of Deer at the time of her appointment, "Ada Deer is a strong leader with a lifelong commitment to American Indian rights, to improving the lives of American Indians, and to the strengthening of tribal governments. She was very highly recommended for this position by numerous tribes and tribal councils across America. She is an outstanding advocate with an impressive record of success and accomplishment."

Deer told the Senate Committee at her confirmation hearings that she embraced this administration's theme of change. She said she had dedicated her life to being an agent of change, as a Menominee, as a Social Worker and as a human being.

"Personally, you should know that forty years ago my tribe, the Menominee, was terminated; twenty years ago we were restored; and today I come before you as a true survivor of Indian policy," Deer told the Committee.

She said her version for the Bureau of Indian Affairs is to create a progressive federal/tribal partnership—a partnership to fulfill long-held promises and to address long-overdue injustices. "The heart of Indian policy must be strong, effective tribal sovereignty. The role of the federal government should be to support and to implement tribally inspired solutions to tribally-defined problems. The days of federal paternalism are over," Deer said.

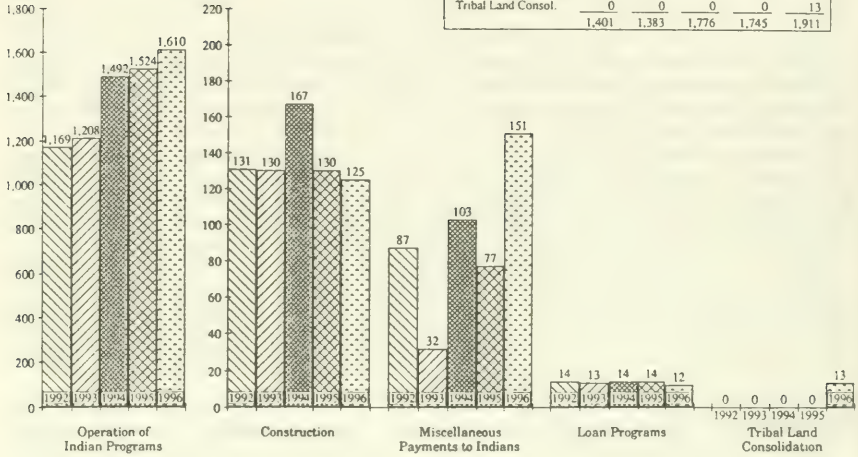
Deer was born on the Menominee reservation where thirty years later she led the struggle to restore federal recognition to her tribe after it was terminated by the "misguided and now-discredited experiment and policies of the 1950s." She has been involved in Indian causes ever since.

Deer is a founding director of Americans for Indian Opportunity and the American Indian Graduate Program. She was appointed by the U.S. Senate to the American Indian Policy Review Commission in 1974 and has been a client, a staff member, a board member, board chair, and finally, chair of the National Support Committee of the Native American Rights Fund.

She has served on the boards of the Girl Scouts, Common Cause, Independent Sector, National Association of Social Work, and other organizations. She was appointed by both Presidents Carter and Reagan to the President's Commission on White House Fellowships.

Deer was the first member of her tribe to graduate from the University of Wisconsin (1957) and the first American Indian to receive a master's degree from the School of Social Work at Columbia University (1961). She was a fellow at the Harvard Institute of Politics, John F. Kennedy School of Government, in 1977. In addition, her academic honors include Doctor of Humane Letters from the University of Wisconsin-Madison. Among numerous other honors, Deer was presented a National Distinguished Achievement Award by the American Indian Resources Institute in 1991 and was named Woman of the Year by Girl Scouts of America in 1982.

Chart 1
BUREAU OF INDIAN AFFAIRS
Administration Budget Requests
FY 1992 - FY 1996
(Dollars in Millions)



	Summary				
	1992	1993	1994	1995	1996
OIP	1,169	1,208	1,492	1,524	1,610
Construction	131	130	167	130	125
Misc. Pay. to Indians	87	32	103	77	151
Loans	14	13	14	14	12
Tribal Land Consol.	0	0	0	0	13
	1,401	1,383	1,776	1,745	1,911

Chart 2
BUREAU OF INDIAN AFFAIRS
FY 1996 Request Compared to FY 1994 Enacted and FY 1995 Enacted
(Dollars in Millions)

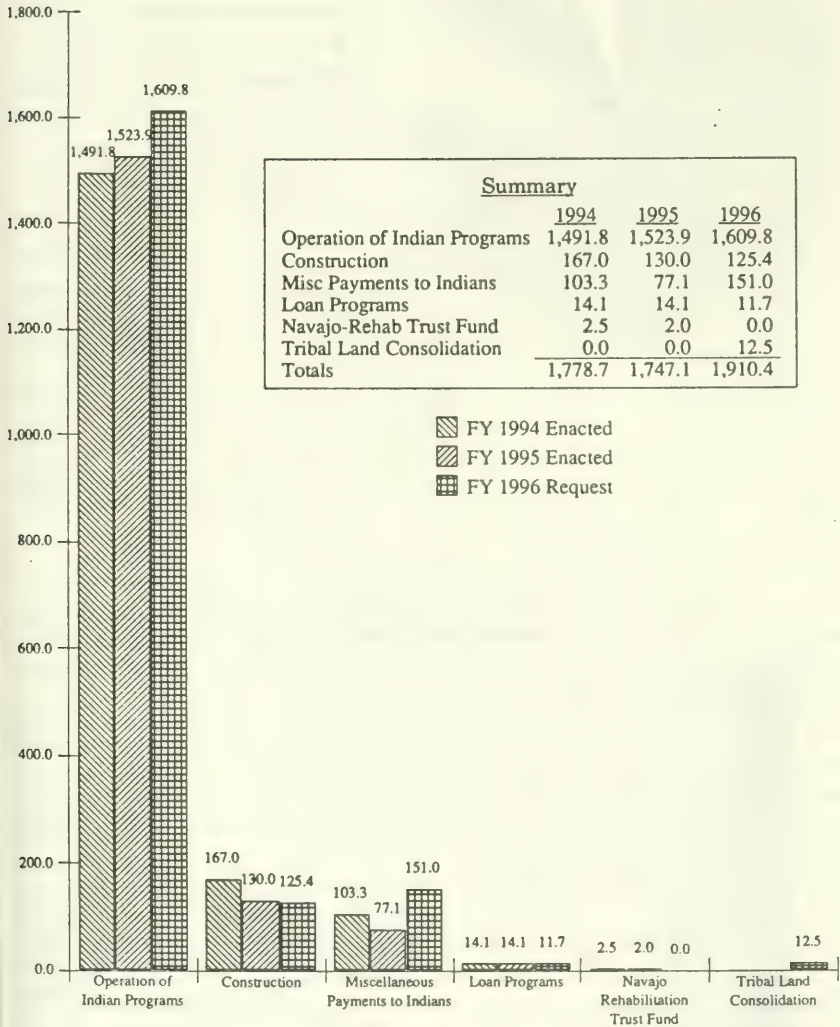
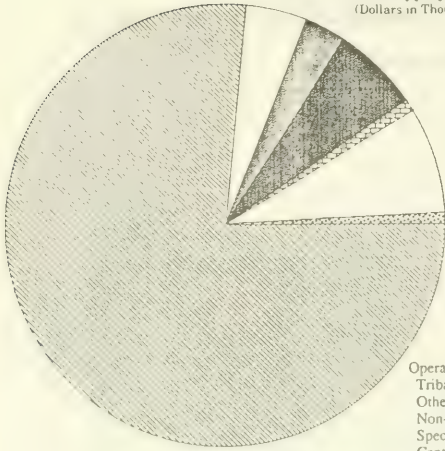


Chart 3
DISTRIBUTION OF FY 1996 BUDGET REQUEST
 (Direct Appropriations)
 (Dollars in Thousands)



- OIP, excluding Central and Area Office Operations (76.78%)
- Central Office Operations (4.61%)
- Area Office Operations (2.88%)
- Construction (6.57%)
- Loan Programs (0.61%)
- Miscellaneous Payments (7.90%)
- Tribal Land Consolidation (0.65%)

	FY 1995 Enacted	FY 1996 Request	Change
Operation of Indian Programs			
Tribal Priority Allocations	521,010	766,573	245,563
Other Recurring Programs	703,561	542,018	-161,543
Non-Recurring Programs	81,221	66,480	-14,741
Special Programs & Pooled Overhead	84,060	91,778	7,688
Central Office Operations	80,537	88,069	7,532
Area Office Operations	53,443	54,924	1,481
Construction	130,021	125,424	-4,597
Loan Programs	14,116	11,650	-2,466
Land & Water Claim Settlements and			
Miscellaneous Payments to Indians	77,096	151,025	73,929
Navajo Rehabilitation Trust	1,996	0	-1,996
Tribal Land Consolidation	0	12,500	12,500
Total	1,747,091	1,910,441	163,350

Chart 4
BUREAU OF INDIAN AFFAIRS
 Operation of Indian Programs

FTE DISTRIBUTION: FY 1994 - 96
 (Direct and Reimbursable Funding)

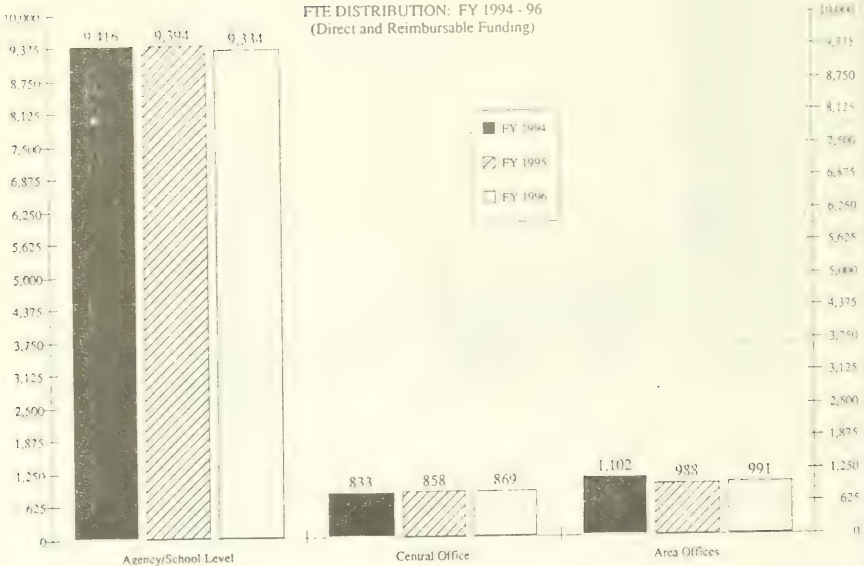
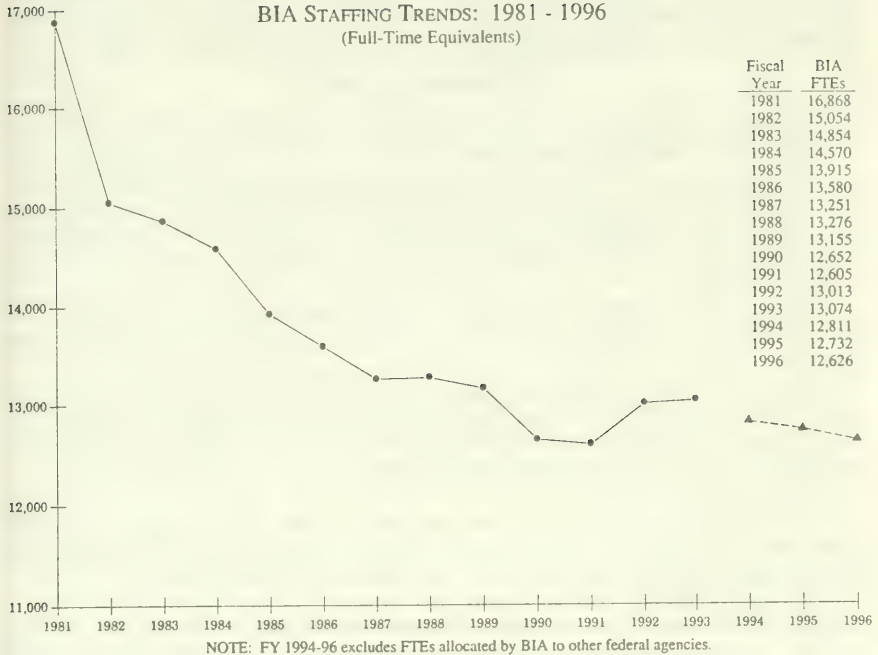


Chart 5
BIA STAFFING TRENDS: 1981 - 1996
(Full-Time Equivalents)



FISCAL YEAR 1996 BUDGET INCREASES

Senator BENNETT. Could you put the first chart back up?

You have increases in a regular fashion in operation of Indian programs, with the biggest increase having come in 1994. You continue to increase from that higher level. Is that a big year in 1994? It appears that 1994 was a good year, especially for the construction account.

Now, miscellaneous payments to Indians, 1996 eclipses every previous year. Can you tell the subcommittee what that consists of?

Mr. CECCUCCI. Mr. Chairman, in 1996, we are shifting some of the funds that were appropriated this current year in the construction account for the Navajo Indian irrigation project and SAWRSA construction to the miscellaneous payments to Indians account. That transfer accounts for a large portion of the increase.

Senator BENNETT. So, in fact, you are juggling dollars. You are not changing programs.

Mr. CECCUCCI. The 1996 request includes the Navajo Indian irrigation and the SAWRSA construction projects within the miscellaneous payments to Indians account. We have requested funding for these projects in the miscellaneous payments to Indians account consistently for the last 3 years, however, the Appropriations Committee has appropriated the funds in the construction account.

Senator BENNETT. Well, you have not answered my question, then. If in fact you have been keeping books the same way for the last 3 years, you still have a significant increase in miscellaneous payments to Indians.

If that is in fact construction money that would, under previous definitions, have been in construction, then your construction budget would go up significantly. But you say that is not the case.

SETTLEMENT PAYMENTS

What do you mean when you say miscellaneous payments to Indians? What are those payments?

Mr. CECCUCCI. OK. They include the payments authorized by legislation to various tribes for land and water settlement agreements, such as the Ute Indian rights settlement, for which we are requesting \$25 million. That is about \$5 million more than the amount enacted in 1995.

Senator BENNETT. Well, now, rights settlement. Is that settlement of a court case, or is that a payment that comes along every year?

Mr. CECCUCCI. Congress legislated the settlements. The various settlements call for annual payments and some one-time construction costs. In the Ute settlement, most of the funds are for construction and some farm development.

Senator BENNETT. OK.

Mr. CECCUCCI. It includes payments for the Three Affiliated Tribes of \$6 million. That is an annual payment. As I recall, that payment is \$6 million for each year over a 10-year period.

Senator BENNETT. What is it for?

Mr. CECCUCCI. The funds are to be deposited in a trust fund account for economic development, and the community development of the tribe.

Senator BURNS. What was the settlement for? What was the settlement? I mean, there is a reason we are handing them over \$6 million.

Mr. CECCUCCI. Do you mean the settlement of \$60 million over a 10-year period.

Senator BURNS. Yes.

Mr. CECCUCCI. It is settlement of water rights that historically were denied to the tribe because of certain actions, such as the diversion of water, and other things.

Ms. DEER. Where are they located? North Dakota?

Mr. CECCUCCI. North Dakota.

Senator BURNS. Well, this has been federated?

Mr. CECCUCCI. The Three Affiliated Tribes? Yes, sir; that is in North Dakota.

We are requesting \$2 million to implement the Jicarilla Settlement Act; \$10 million to continue to meet the provisions of the Pyramid Lake water rights settlement; \$34 million for the Navajo Indian Irrigation Project; \$3 million for the Southern Arizona water rights settlement; and \$25 million for the Northern Cheyenne settlement.

NEW TRIBES

Senator BENNETT. You made reference in your statement to newly recognized tribes. I do not want to be misunderstood, and I am not trying to be facetious, but that calls to mind newly recognized species that all of a sudden we have to protect that we did not know were there.

Coming new to this subcommittee and this issue, I am surprised to know that there are newly recognized tribes. Where do they come from? Unlike the species, the biologists do not find them, obviously.

Ms. DEER. During the 1950's, we had the termination policy of the Federal Government, and many tribes were terminated during that time period.

A number of tribes have come back together and have, through either legislative action by the Congress, or through the Federal acknowledgement process, which is an administrative process that we administer in the Bureau of Indian Affairs, regained Federal recognition.

Senator BENNETT. So they are tribes that were derecognized and then now rerecognized?

Ms. DEER. That is one category. There are also some tribes that are State recognized and some that are unrecognized. If they petition the Bureau's Federal acknowledgement staff, they go through an exhaustive analysis of their genealogy history, and tribal government. A number may achieve Federal recognition through that process.

Senator BENNETT. Do you have any ballpark idea as to how long this process is going to go on and how many more unrecognized tribes there may be?

Ms. DEER. We currently have 127 unresolved cases. There are a number of details concerning this.

Senator BURNS. Now that means—excuse me, but that means that 127 tribes who have petitioned you for recognition that have not been dealt with yet. Is that correct?

Ms. DEER. Yes; that is correct.

Senator BENNETT. Presumably, they are each one a different tribe, or are they—

Ms. DEER. That is why we have the process, because there are many requests, and we want to give everyone fair and adequate consideration. Not everyone who applies receives recognition.

It is a very serious step to establish Federal recognition and a government-to-government relationship with the tribe. Some are impatient with the length of the process, but I feel, with the qualified staff of historians, genealogists and others that we have, it is a fair process that comes to correct resolution.

FEDERAL ACKNOWLEDGEMENT

Senator BENNETT. Is there any single driving force behind this effort to achieve recognition? Being very blunt, is Indian gaming, and the prospect of Indian gaming, driving any of these efforts?

Ms. DEER. That could be behind some of the requests. But there are other groups, for example, that are descendants of treaty tribes that have decided that they would like to go through the process.

And again, I want to emphasize the fairness and the thoroughness and that we do not automatically grant recognition.

Senator BENNETT. But you do not know—I guess it would be unfair to ask whether their driving motive is economic or searching for their heritage and, therefore, considered some kind of spiritual motive.

Ms. DEER. It varies from tribe to tribe. This acknowledgement process was in operation long before the gaming came on the scene.

Ms. MANUEL. Mr. Chairman, I should say that probably around 80 of those 127 letters of intent filed by unrecognized groups, were filed well in advance of the advent of gaming.

There have been a few that have come in after the Gaming Act passed and clearly were interested in recognition to obtain the benefits of the Indian Gaming Regulatory Act of 1988. But because the process is so detailed, and we scrutinize very carefully the petitioners' documents, it does take a long time. It is not something that can be done over night.

One of the other things that we have decided to do, because a large number of these petitioners have indicated their interest simply by a letter of intent and have not followed through in providing the documentation to establish the criteria under the regulations, is to send letters to them asking if they still intend to seek Federal acknowledgement, otherwise we will put them on an inactive list.

Senator BENNETT. How big a deal is this budgetwise? How many people, how many dollars are involved in this effort? Is this a relatively minor issue?

Mr. CECCUCCI. In fiscal year 1996, we have a total of \$11.5 million for new tribes funding. That includes the seven tribes that were recognized in legislation passed by Congress last year.

Senator BENNETT. And that includes the effort to sift through whether they qualify or not. The \$11 million covers that cost as well?

Ms. MANUEL. NO.

Mr. CECCUCCI. That is covered out of our central office administrative expenses for the staff, of genealogists and historians who do the research behind the recognition. The \$11.5 million requested for new tribes is to provide to them assistance in initiating federally funded operations.

Senator BENNETT. How much money are we talking about? I do not need an exact number, but—

Mr. CECCUCCI. The recognition staff? It is a very small staff, actually.

Senator BENNETT. OK. That is all I need. I do not want to pursue this anymore. This is more of an interest kind of thing than it is a basic legislative effort.

Ms. DEER. We would be happy to come and give you a more thorough briefing.

Senator BENNETT. Well, it is kind of an interesting sort of thing.

Ms. DEER. Yes; it is very interesting. I would like to point out that we are righting some serious wrongs. And I think that in our every day interactions, we might forget that we are working to resolve a number of serious injustices. And it is a very great source of pleasure to me when I sign the acknowledgement letter and say, yes, they are recognized as a tribe.

PER CAPITA FUNDING

Senator BENNETT. OK. Your budget totals roughly 9 percent above what it was in fiscal 1995. I am presuming that there has not been a 9-percent increase in Indian population.

Inflation has not gone up by 9 percent. Is there any one particular unusual event or unusual construction project or unusual administrative project that is causing you to go up by that amount?

Ms. DEER. Let me say that overall the budget of the Bureau has been very conservative. We have a backlog of many, many serious requests, including school construction, road maintenance, and I could go down the list. Actually——

Senator BENNETT. But according to this chart, that is not where the increase is coming. It is coming in the operation budget and the miscellaneous payments.

Ms. DEER. I know, but you asked about the——

Senator BENNETT. Yes; the 9 percent is the total.

Ms. DEER. Yes; so again, as a backdrop for this, the per capita resources within the fiscal year 1985 appropriations were \$1,150. And in 1995, they were \$916.

So even though there is an increase requested in the 1996 budget, the amount expended per capita is lower than it was 10 years ago. So we could get into a full discussion, a more detailed discussion, of this, but I do not think the 9 percent increase is extravagant.

Mr. CECCUCCI. Generally over the last 10 years our appropriations have kept pace with inflation. The population growth over the past 10 years on reservations, has increased. I believe it is slightly over 40 percent.

Senator BENNETT. Over a 10-year period?

Mr. CECCUCCI. Yes; when looking at the budget request on a per capita basis in constant dollars, accounting for inflation, the total appropriation for the Bureau has really declined in the past 10 years, as the Assistant Secretary said, from over \$1,100 per capita down to a little over \$900 per capita.

Senator BENNETT. That is a function of a population increase?

Mr. CECCUCCI. Mostly population.

Senator BENNETT. Not a function of——

Mr. CECCUCCI. Our budget over the last 10 years has kept pace fairly well with inflation. That does not mean to say it has kept pace with the needs.

Senator BENNETT. Yes; I understand that. But I was about to say it is not a function of increase in overhead at headquarters, and that is why not enough money has reached the——

Mr. CECCUCCI. Not at all. In fact, the statistics that we showed on the charts show that our area and central office staffing has remained fairly stable over the last 3 years.

Our area office has decreased slightly. Less than 8 percent of our total appropriation supports our headquarters operations and both Washington and Albuquerque and——

Senator BENNETT. Well, I do not understand your chart then, because if you say the per capita payments have been going down, it is very clear that the operation of Indian programs—put the chart back up there.

The agency social level, that is where most of the money has to be, in those first three bars.

Mr. CECCUCCI. Most of the money is out in the local area, yes, at the reservation level and at the school level.

Senator BENNETT. Yes; so I think you might do some different bars, because the impression you give from that is that you are spending an enormous amount of money at headquarters.

Mr. CECCUCCI. Oh, that is our staffing distribution, not our dollar distribution. About 86 percent of our entire operation of Indian programs appropriation is made available at the tribal reservation level, where services are provided to the tribes.

Senator BENNETT. OK. I think you would be well served to do a different set of bars to make that clear.

Mr. CECCUCCI. We will. Thank you for the suggestion.

Senator BENNETT. Because somebody coming in fresh and new—and that is another word for uninformed—can get the wrong impression. [Laughter.]

Senator BURNS. We walk into walls all the time.

Senator BENNETT. I have some more questions.

Senator BURNS. I am interested in this chart here. And thanks for coming in. I will set up here and take notice here.

TRIBAL POPULATION

How many members do we have that are enrolled in the tribes nationally? What is the population?

Ms. DEER. Some 2 million, and then we serve about 1 million in the reservation areas.

Senator BURNS. Now, wait a minute. Run that figure by me again.

Ms. DEER. The population of American Indians/Alaska Natives is about 2 million.

Mr. CECCUCCI. That is a census finding nationally.

Senator BURNS. But I mean, that includes the tribal rolls. Would you not have—I mean, do you not have some kind of idea how many are on the tribal rolls?

Mr. CECCUCCI. The population on or near reservations, I believe, is 1,081,000, about 1.2 million.

Senator BURNS. What?

Mr. CECCUCCI. Approximately 1.2 million is on or near reservations.

Senator BURNS. OK. That are on the rolls.

Mr. CECCUCCI. They are on the rolls.

Senator BURNS. And we are spending \$1.9 billion on programs for—

Mr. CECCUCCI. Less than \$1,000 per capita.

Senator BURNS. What?

Mr. CECCUCCI. Less than \$1,000 per capita.

TRIBAL INCOME FROM NONTRIBAL SOURCES

Senator BURNS. OK. Now, what about the incomes, tribal incomes, on reservations?

Where does that—do we have any idea how much income is being derived off of the reservations or as a result of tribal activities, like minerals, agriculture, tourism, this type of thing?

Ms. DEER. Ms. Donna Erwin can provide some details.

Ms. ERWIN. We might be able to get a total. We can only track revenue that flows through our area, which is the trust funds. But I think they are saying the total of everything that is coming

through. We do not maintain statistics on those types of numbers. The tribes are very reluctant to release those numbers to the Federal Government. And I think it is very difficult, if not impossible to even extract that information.

Senator BURNS. OK. I guess this is a silly question, but as we go down this road of self-determination and the independence of our tribes—and I am just going to speak for the people in my State of Montana, of which we work very closely in the development of some of their programs.

I think they are doing a lot better at tourism. We set aside some stuff up there and also with the Indian Gaming Act and the income to the people on those reservations—remember those roles.

ROLE OF THE BUREAU OF INDIAN AFFAIRS

I am wondering how important is the Bureau of Indian Affairs? If the tribes want to do business directly with the Federal Government, how important is the Bureau of Indian Affairs? Is that a bad question?

Ms. DEER. Let me say that the Bureau of Indian Affairs is the mechanism by which this Government carries out many of its major obligations to the native peoples. We have treaties, laws, executive agreements, and a whole array of underpinnings of our legal, political trust relationship.

And let me say that this question comes up periodically. It is——

Senator BURNS. I know it has come up—in fact, it was one of my tribal chairmen that actually asked me.

He said, “Would you want to ask them a question?”

I am not going to tell which one, now. I am not going to tell you that.

“Why do we have a Bureau of Indian Affairs?”

Ms. DEER. Well, I think that your tribal chairman needs to probably get a little more information, then, if he is asking this question, because if you ask many——

Senator BURNS. He is not doing bad. I will tell you that.

Ms. DEER. All right.

Senator BURNS. He is driving a better car than I have.

Ms. DEER. All right. I will be happy to talk with him.

OPPORTUNITIES FOR INDIAN YOUTH

Senator BURNS. And I do not want to be flippant about this. I think it is an important thing we have to look at as we go down, as we talk about what is best.

Madame Secretary, here is what I am concerned about. We have seven reservations in Montana. Now, I have a soft spot in my head for kids.

Under the conditions that we have on our reservations today, education, economic opportunities, to be able to participate in the American dream, those young people are hampered.

And I am trying to find a way that they can break out, and we equip those people, because there are some great athletes, there are some great minds.

We are working very hard through fiber optics to link our community colleges together on our reservations up there, to try to

plug them into the University of Montana and Montana State University, distance learning, rural health or tele-medicine.

Those are things that we try to do and make sure the infrastructure is there for them. And we are hampered sometimes because our own Government sometimes gets in the way.

And that is what I am trying to say—its not just the money that we spend. My goodness, \$1,000, I would have to agree with the gentlemen here, that that does not sound like very much.

But I think it is time that we start talking about responsibilities to our youth and our young, that we have to start talking about tribal income plus the commitment that the American people have made toward our native Americans, and say, we have some responsibility.

And the only way we can teach individual responsibility, we have to be responsible to our young, too.

That is all I am saying here. There has to be a way to crack this. It seems like an invisible wall, to be honest with you, because I cry for my people. I really do. I spend a lot of—before I ever came to politics, I did a lot of business on the Cheyenne and the Crow, a lot of it.

I remember the old saying that I used to buy a lot of cattle, not because you get the most for the cattle, it is because your check is good. And I could walk anywhere almost among those people and do business with them.

But I see those—and I took a lot of advice from an old gentleman that just passed on, who I thought was a wise, wise man. And that was Robert Yellowtail. I think there are some people in here—he played football.

To give you an idea, he played football with Jim Thorpe at Carlisle. That is how old he was. But he was an old, old wise man, and I spent many hours with him.

But that is what I am trying to do, not so much to question the budget. I think your budget is a little out of line. I think maybe it is a little too much maybe for these times. But I think we can work our way through that. And I am willing to work with you on that.

What I am trying to do is set that infrastructure so that we can not only put our cultural values along with the other values and responsibilities that we have to the rest of society.

That is what I am really going for. I want to identify, sort of stake out my position in this. And I want to work with you and the people, because I just—I weep for my young people.

I want those young people to get their shot, and right now, they are not getting it. They are just not getting it.

And I thank you, chairman, for—the sermon is over. I am sorry about that.

Senator BENNETT. Well noted.

Ms. DEER. We will be very happy to work with you on all these issues and problems and programs. And let me say that native people need more resources, not fewer resources.

Senator BURNS. That is right, but we also have to look at what is fair, too. What is fair? You know, we have a situation going on on our reservations up there. You see, we have open reservations.

NON-INDIAN RESERVATION LANDOWNERS

Now that presents a problem that we do not have anywhere in America, other than out of the Aberdeen district which has more checkerboard, fee-patent land owned by nontribal members inside the boundaries of existing reservations.

Now that relationship is becoming very, very—it is being tested. It is being tested. And what are we going to do? We have to find the solution to that which is fair, because some of those ranches—let me say some of the ranches on the Crow are in the third generation of ownership of nontribal members.

And the relationship with the tribe has always been fairly good, but now we have some outside elements coming in. And we have pressures now. And I do not know how to deal with that. But I know we have to find some way that is fair to everybody.

And that is—and I realize that that is where—so I think we are kind of unique up in that part of the country, because Browning—the Blackfoot is an open reservation, the Flathead.

I think there is ownership, also, on Fort Peck. I know on the Crow. I am not so sure about the northern Cheyenne. They have some ranches down on the northern Cheyenne.

But I want to bring this to some kind of a reasonable, fair solution, because we cannot allow this—we cannot allow that to happen. And I want it to stop.

Senator BENNETT. Thank you. Let's—

Senator BURNS. Thank you. And I will quit preaching again.

FISCAL YEAR 1996 FUNDING PRIORITIES

Senator BENNETT. Taking off a little from Senator Burns's comment about the budget perhaps being a little too high, within the funding you have requested, how would you prioritize funding in case the Congress, in its wisdom, were to decide to give you something less than you have asked for? Where would you put your priorities?

Ms. DEER. Well, the President has submitted his budget request, and we are, of course, supporting his budget request. We have outlined the needs and the programs, and we would stand in support of that effort.

Senator BENNETT. I understand that, and I am not asking you to back away from that in any sense. But if the funding were to remain, for example, at the same level as fiscal year 1995, which would be about a 9-percent reduction, would you give the committee any counsel, or would you say no, we will not give you any suggestion as to where priorities lie?

In which case, if we decide to do some cutting from the requested level, we are probably going to do it in some ignorance, lacking your input.

So that is why I am giving you the opportunity to make the suggestions. I am not trying to force you to back away from the President's budget. But if we do indeed do something like that, we would look for some counsel from the people closest to the problem.

Ms. DEER. We appreciate that. And I know that there are discussions that go on between the various staff members and the budget

offices. And we would make available information so that the decisions could be made.

FRACTIONATED LAND HEIRSHIP

Senator BENNETT. All right. Your budget request includes \$12 million for a tribal land consolidation fund to address the problem of fractionalization of ownership of allotted tribal lands.

According to the program and financing schedule, approximately \$6.5 million of the funds are expected to remain unobligated at the end of the fiscal year. Can you explain how this consolidation fund will operate?

Ms. DEER. Well, this problem started in 1887, when the allotments occurred. And over the years, many, many non-Indians have acquired individual portions of land, as well as some individual Indians.

So we have this burgeoning problem, and we are attempting to deal with this. Because if we do not deal with it, the problem is going to continue to grow.

This fractionization is going to continue on indefinitely unless some action is taken. So with the establishment of this fund, we hope to be able to make it possible for tribes to consolidate these very, very small fractionated pieces of land and to begin dealing with the problem.

Senator BENNETT. So they would own shares in the fund. Is that how it would operate?

Ms. MANUEL. The way that the proposal has been made is that the administration of these highly fractionated interests is the responsibility of the Bureau. The interests are owned by individuals. The buy-back program would basically allow the Federal Government to buy back these interests.

TRIBAL LAND CONSOLIDATION SELF-SUFFICIENCY

Senator BENNETT. I see. OK. When do you expect the fund to be self-sufficient?

Ms. MANUEL. At this point, one of the things that has happened that I am not sure that we have indicated to the Hill regarding this proposal, is that a lot of the tribes that have a major stake in this project requested additional time for comment and review.

And we had received, I believe, a couple of months ago—the number of people that had replied to the survey was about 10,000 individual Indians. Although we are continuing to work on the proposal to get the legislative package together, we are still receiving and reviewing comments from individual members and from tribes who are more experienced at dealing with these issues firsthand. I would—

Mr. CECCUCCI. As I understand it, self-sufficiency of the fund is not quite the way to state it. The Federal Government would purchase the fractionated lands, and the costs for that purchase would be recovered to the Treasury through income generated from that land. When the Federal costs are satisfied, the land would be transferred to the tribe for them to continue and expand development. So the Federal Government would recover the costs over a period of time.

Senator BENNETT. I understand that.

Mr. CECCUCCI. There would be savings early on in administrative costs because we would not have to continue to account for this geometric growth.

Senator BENNETT. I understand, but my question is: When would that happen? When will the fund be self-sufficient and the initial \$12 million repaid?

Ms. DEER. I think it is hard to say.

Mr. CECCUCCI. About 20 years.

Ms. DEER. I mean, we have over \$300 million.

Mr. CECCUCCI. \$300 million.

Ms. DEER. \$300 million. I mean, it is——

Senator BENNETT. Pardon me? \$300 million?

Ms. DEER. That is what it will cost to buy back all of the——

Senator BENNETT. So it will cost \$300 million over 20 years.

Mr. CECCUCCI. Roughly.

Senator BENNETT. So your \$12 million is——

Ms. DEER. Just a start.

Senator BENNETT. A start.

Mr. CECCUCCI. To start pilot projects, to work up the process to address this problem.

Senator BENNETT. Now that is why you are requesting \$12 million even though only \$6.5 million is expected to remain unobligated at the end of the year, you are building up the \$12 million per year for 20 years.

Mr. CECCUCCI. Yes; we do not expect to obligate all of the funds in the first year, because we have to enter into negotiations with all of the tribes that will be involved. But we do want to be able to enter into additional agreements on a consolidation in the future years. So we have asked for some earlier funding for that purpose, for this pilot effort.

TRIBAL LAND CONSOLIDATION AUTHORIZATION

Senator BENNETT. What is the status of the legislation authorizing this fund?

Ms. DEER. We are still in a consultation phase.

Senator BENNETT. Do you have any idea when it will be enacted?

Ms. DEER. No. We want to complete the consultation with the tribes and then, based on this consultation, submit legislation. I would like to point out that the annual administrative cost for this at this point is \$50 million, which is a very high cost.

Senator BENNETT. And that is in that first bar.

Ms. DEER. It is in one of the bars. I do not know—which one is it in?

Mr. CECCUCCI. The very small one to the far right, \$12.5 million.

Senator BENNETT. OK. Now wait a minute——

Ms. MANUEL. No; he is talking about the administration.

Senator BENNETT. She just said \$50 million, and I did not find \$50 million anywhere except in one of the big bars.

Mr. CECCUCCI. Yes; that is within the——

Ms. MANUEL. The operation of Indian programs.

Senator BENNETT. OK. So what you are telling us is that if in fact this proceeds, eventually you will save \$50 million in administrative costs, or will you only save \$25 million in there, and there will still be \$25 million, or will it all go away?

Ms. DEER. I think it is hard to predict, because these are individual allottees that have to be dealt with, both Indian and non-Indian. But we need to get a grip on this problem, because these figures are astronomical.

Senator BENNETT. Yes; \$50 million gets our attention.

Ms. DEER. Right. And so we will save a great deal of money in administrative costs, and also the tribes will benefit, because they will be able to consolidate the land and make more productive use of it.

Senator BENNETT. And the tribes are supportive of this proposal?

Ms. DEER. Yes.

Senator BENNETT. OK.

Ms. MANUEL. I think the other point to make is that as we delay any action on this proposal, the number of fractionated interests continues to grow. Currently, I think, we are approximating that there are 1.5 million of 2 percent or less interests—

STAFF. It is a little over 1 million.

Ms. MANUEL. A little over 1 million. And the longer it takes us to figure out a way, a mechanism, to stop this fractionation, the more the costs are going to continue to mount as we attempt to administer these interests.

SCHOOL OPERATIONS

Senator BENNETT. OK. Thank you. That helps me understand it.

Let's go to school operations. The budget request for school operations is \$450 million, an increase of approximately \$32.8 million or 8 percent above the 1995 level.

For school equalization formula funds, \$277 million is requested, an increase of approximately \$17.9 million, or 7 percent above the 1995 level. The full-time equivalents associated with ISEP formula funds is \$2,830, an increase of 50 above the 1995 level.

How much of the increase in ISEP formula funds is associated with an increase in enrollment, and how much of the funding represents an increase to the funding level per weighted student unit?

Ms. DEER. Dr. Tippeconnic.

ENROLLMENT INCREASES

Dr. TIPPECONNIC. Thank you, Mr. Chairman.

ISEP supports the basic costs of operating the school. It is not on a per-pupil basis, but it is on a weighted student unit basis.

We have experienced over the past few years a continual increase in the number of students in our schools. Currently, we have 185 schools, and there are 46,556 students attending those 185 schools. That represents a 3-percent increase compared to last year. We expect a 4-percent increase next year. And the year after that, we expect another 4-percent increase in our student enrollment.

We are bringing in two new schools next year, and there are a number of grade expansions in our schools that will increase the enrollment by about 400-plus.

So just the enrollment factor, just the demographics, the interest in our schools, and the increase in ISEP goes to support that increase in number of students.

Senator BENNETT. But the numbers you have given the subcommittee indicate that the increase in enrollment is about one-

half percentage-wise of the increase in budget request. Does that mean you are building up for future increases?

And when the increases in enrollment come in future years, they will not be accompanied by a budget request, because you have built the facilities now, or will we be having this same conversation next year?

Dr. TIPPECONNIC. No; we are not building up. The request for ISEP meets the current resource needs for our current student body and the increases that we project.

Senator BENNETT. Now let me see if I understand it. You said the increase is going to be 4 percent.

Dr. TIPPECONNIC. Yes; 4 percent.

Senator BENNETT. And your total budget increase is 8 percent. And again, I do not correlate those two numbers.

Dr. TIPPECONNIC. It is the way we fund our schools. We cannot look at it just by numbers of students.

ISEP FORMULA

We have to look at it by the formula that we currently have to fund our schools. It does not fund on a per student basis. It funds on a weighted student unit basis.

Senator BENNETT. I understand that. But there ought to be some rough correlation.

And if in fact to handle a 4-percent population increase, you are spending 8 percent under the formula this year, that would say to me, "All right. We have to add x number of facilities. We have to handle——"

Dr. TIPPECONNIC. Not facilities. Teachers, transportation, textbooks, the——

Senator BENNETT. OK. Are you saying that the formula will always be a 2-for-1 ratio, that when there is a 2-percent increase in enrollment, there will be a 4-percent increase in budget?

When there is a 5-percent increase in enrollment, there will be a 10-percent increase in budget?

Dr. TIPPECONNIC. Not necessarily, no. You are talking about, as I understand it, school operations——

Senator BENNETT. Yes.

Dr. TIPPECONNIC. Which includes ISEP but also includes other line items in the budget that go to support elementary and secondary education. Those include things like transportation, early childhood education, and the handicapped.

Senator BENNETT. I understand. I understand all that. I am just troubled by what is driving the formula. If we get in a situation where the formula says that the total cost is always going to go up faster on a percentage basis than the enrollment goes up, we have ourselves into a circumstance like under Medicare. It is going to bankrupt at some point in the future.

Dr. TIPPECONNIC. It is the formula. The formula does not—we do not fund on a per student basis.

Senator BENNETT. I understand that.

Dr. TIPPECONNIC. But it is based upon each student and what grade that student is in and the kind of activities that student is engaged in. And those kinds of things are given weights. So it is not a 1-to-1 kind of——

Senator BENNETT. No; I understand that. The formula is different than a straight weighted student unit. But I am still making the general observation that if application of the formula produces the result that the total cost of the school is always going to go up at a rate twice as fast as the population increases, there is clearly something wrong with the formula.

Dr. TIPPECONNIC. Well, that may be, but there is not a 1-to-1 relationship there.

Senator BENNETT. I understand that it is not a 1-to-1 relationship. But if I am running a school district and I have a formula for how I take care of the needs of my school district, and the enrollment in my school district doubles, a defense plant opens and a whole bunch of people move in, and my overall costs quadruple, I have to sit down with my school board and say: There is something wrong with our formula.

No; we are not funding on a student-by-student basis. We have another formula that we have drawn up. But folks, this is unsustainable.

I mean, there are times when you have to step back from the trees and look at the forest and say this is counterintuitive to the way we have to do business.

As I say, it is like under Medicare, because I am involved in the Medicare issue heavily with the Republican task force on health care. But we have to ask these kinds of questions.

Mr. CECCUCCI. Mr. Chairman, the 1996 budget request does project or assume a 4-percent increase in the student population, and that is close to the historical growth that we have experienced for a few years. That is 4 percent in the student population.

We are increasing the per WSU value by \$54 over the current level of \$2,954, or \$3,008. That is, as my calculations show, about a 1.9-percent increase, real increase, in dollars. So the dollar increase is less than the student growth, and it is probably less than the inflationary growth, too.

Senator BENNETT. Well, this is probably a discussion for the authorizing committee, but there is a major disconnect at work here.

Dr. TIPPECONNIC. Mr. Chairman, are you looking at the ISEP formula itself?

Senator BENNETT. No.

Dr. TIPPECONNIC. Is that the concern?

Senator BENNETT. No; well, I do not know anything about the ISEP formula specifically. I know generally, but I do not know specifically anything about it.

But I am raising what is to me is a very obvious kind consideration here, which is that the mechanism we have constructed—and when I say “we,” I mean the United States as a whole—a mechanism we have constructed to deal with this problem is producing significantly higher costs with significantly lower benefits than we should be getting from those costs to take your contribution, where you say it is really only 1.9 percent.

And that says to me there is something wrong, something seriously wrong. As I say, this discussion probably belongs in the Authorizing Committee, so I will not pursue it.

EDUCATION FUNDING

Dr. TIPPECONNIC. Well, let me add one thing. When we ask our customers out there, our schools, and we have a regular process, you know, by which we do that through consultation, and we ask the tribes, the kind of comments that we get back look at the system and how the system operates.

But more importantly, from their perspective, they look at funding. They look at funding, and what we hear by and large, not just for elementary and secondary education, but for all of our education programs, including tribal colleges, is that they do not have the resources that they need.

So what I am getting at, though, is that we cannot go on the assumption that what we have is going to meet total need. And perhaps we are trying to catch up to that need in budgets like this one. So you are not going to see that kind of—

Senator BENNETT. Well, as I say, this is probably not the forum in which to engage in this kind of debate.

I spent some time working on school restructuring outside of this arena, in the public school arena, and will simply make the side comment that you ask any educator anywhere, and you will be told we do not have enough money to meet our needs.

Dr. TIPPECONNIC. True.

Senator BENNETT. And I came to the personal conviction very strongly sometime ago that the solution to our educational problems does not lie in pouring more money into it, but in significantly restructuring the way education is managed and the way it is provided.

And no less a thinker than Senator Moynihan, who has studied this issue, made the comment in one of his monographs that if you charted the amount of money spent on education and the accomplishments in education and looked at those two things alone, you would come to the conclusion that the more money you spend on education, the more damage you do to it because the two trend lines have been going in directly opposite directions.

Now, he is smart enough to realize that there is not a direct cause and effect relationship there. But there is, I believe, a message there that says we are not spending our money intelligently.

And that is the strong message in education as a whole. It is just my gut reaction to these numbers that that same circumstance is here.

And with that, I will close the subject, and you can argue it out in front of the appropriate forum. And I apologize for spending so much time on it. But I feel strongly about it.

Let's go to the one everybody is excited about, and that is Indian gaming. We have a number of other questions that we will provide for the record.

Ms. DEER. And we will be happy to provide answers to them. I appreciate your interest in education, because I also am an educator. And education does take up about one-third of the Bureau budget. So your questions are important.

Senator BENNETT. In my opinion, education, since the collapse of the Soviet Union, has replaced defense as the No. 1 survival issue

for this country. And in another forum sometime, I can get very exercised.

Ms. DEER. So we are going to talk about gaming.

Senator BENNETT. Yes.

Ms. DEER. We are finished?

Senator BENNETT. You are finished.

Ms. DEER. All right. For the time being.

Senator BENNETT. For the time being, right.

May I thank you for your patience with the new acting chairman who has come to these things without as much background as you deserve? But I appreciate your attempt to educate me.

Ms. DEER. As I have said, I will be very happy to meet with you on a lengthier basis and answer some of your—

Senator BENNETT. We will look forward to doing that.

Ms. DEER. All right. Thank you very much.

Senator BENNETT. Thank you.

NATIONAL INDIAN GAMING COMMISSION

STATEMENT OF HAROLD MONTEAU, CHAIRMAN

We welcome you to the subcommittee and look forward to your testimony. The Commission's budget request for 1996 is \$1 million.

This is not a large amount when measured against the \$1.6 trillion total. But I learned in business that there is no such thing as savings too small to be concerned about. So we will talk about this.

I do have some questions. I have been told that Senator Reid, who comes from a State with more than a casual interest in gaming, would be here with some questions, but he has not taken advantage of the filibuster I conducted with the previous witness to get here.

So we will go ahead. And if he comes in, we will recognize his questions. Otherwise, I am sure he will submit them for the record.

So I would ask you to introduce your associate and summarize your remarks. Your full statement will of course be made part of the record.

Mr. MONTEAU. Thank you, Mr. Chairman.

I have with me today the Associate Commissioner, Jana McKeag. And we also have our executive director here, Fred Stuckwisch, our congressional affairs person, Tom Acevedo, and the general counsel, Michael Cox.

Senator BENNETT. OK.

Mr. MONTEAU. I want to thank you for the opportunity today. I would say hello to the Senator from Montana, my home State.

And yes, we are sort of a minuscule amount in comparison to the Bureau of Indian Affairs budget that was just discussed.

The National Indian Gaming Commission has been in operation, full operation, I would say, since early 1993. However, there have been some other activities that have taken place as far back as 1991-92.

The appropriation amount does seem small. The total authorization in the act for appropriated dollars is \$1.5 million. In the past 2 fiscal years, the request has been the same. It has been reduced to \$1 million in appropriated funds.

The National Indian Gaming Commission also has the right to assess the Indian tribes that are conducting class II gaming, which is bingo, some card games, and pull tabs, a percentage of their income. But that also has a cap in the act of \$1.5 million.

So we have a total authorization or ability to raise funds in any particular fiscal year of \$3 million. By law, we cannot go beyond that particular amount.

However, we have saved some fees that were collected in previous years that we have been able to use to supplement our budget the last couple of years. That amount, of course, is shrinking with each year.

And by the end of fiscal year 1996, that reserve will pretty well be gone. When that happens, we are either going to have to cut back on the things that we do, or we are going to have to have some other mechanism to be able to raise the money that the National Indian Gaming Commission needs.

COMMISSION RESPONSIBILITIES

Our responsibilities under the act are rather limited in terms of the casino-type gambling. Our responsibilities are more toward the bingo operations, the card games and the pull tabs.

We do get involved in the approval of management contracts for class III gaming between a tribe and a gaming management company.

Senator BENNETT. Class III is roulette, blackjack, casino games.

Mr. MONTEAU. Yes; the things that are regarded as casino games.

I do not think it was envisioned at the time the act was passed that the National Indian Gaming Commission would become as involved as it has been in the class III arena.

But essentially what has happened is that most tribes, when they go to a management contract arrangement, have put both class II and class III in the management agreement. And so we end up being involved in the approval and the background checks for the people who are coming in with the company.

And then we also have realized an increased responsibility in terms of the number of tribal background checks that are processed. We process fingerprint cards through the FBI.

Those responsibilities have increased, I think, more than anyone ever realized that they would. We have some 200 tribes that are engaged in gaming, about 225 operations.

Senator BENNETT. In how many States?

Mr. MONTEAU. Some 36, I believe.

Senator BENNETT. Thank you.

Mr. MONTEAU. The National Indian Gaming Commission's chief responsibility at this particular point in time is to try to process the management contracts that are coming into existence on a daily basis.

We have approved 16 of those contracts up to this date. We have another 60 that are in process.

We try to process them as efficiently as possible. We have responsibility under the National Environmental Policy Act, the Historic Preservation Act and the Endangered Species Act to make sure that any construction activities comply with Federal require-

ments related to the protection of the environment. That is a big responsibility.

When we can, we will participate with other Federal agencies, such as the BIA, in that process. But sometimes there is no BIA involvement, and we must conduct that process on our own in conjunction with the tribe.

EXISTING RESOURCES

We have one person on our staff that conducts environmental compliance. We have two people, three actually now with a recent hiring, that conduct the legal review.

And we have two people that conduct the accounting review to make sure that the accounting in the management contracts complies with generally accepted accounting principles.

And, of course, we must review the management contract to make sure there is compliance with the limitations in the act—terms of 5 years and revenue percentage of 30 percent, or revenue percentage up to 40 percent and terms of up to 7 years under special circumstances.

We have a total of 32 staff. We have an FTE limitation that is imposed upon us because of the deficit reduction measures. Actually this year it was 28, but we were able to get the Department of Interior to give us some additional positions that brought us up to 32.

ADDITIONAL RESOURCES

I would be safe in saying that if tomorrow we were able to find 15 more FTE, that we could put those people to work immediately on that backlog of management contracts and on the background checks and on the environmental compliance.

Senator BENNETT. Let me interrupt you there and ask you what kind of a saving in your overall effort would you achieve if you had those 15 additional people?

Mr. MONTEAU. I do not know that we would achieve a savings of appropriated dollars. The appropriated amount, of course, would be \$1 million.

Senator BENNETT. Yes.

Mr. MONTEAU. That supports maybe eight of the current staff that we have. The rest of the staff come out of—or the dollars supporting that staff come out of the tribal money that is submitted to us.

Senator BENNETT. Yes; I understand that. But in terms of efficiency of your operation—presumably you do not exist just to process paper.

You exist for a worthwhile purpose, and there is a mission to provide a degree of stability and regulatory safety, if you will, in terms of criminal elements and others that might otherwise get in.

Would the additional 15 people enhance your mission significantly, or would it just increase the speed with which you process things, but in terms of the overall effect on life not make that much difference?

Mr. MONTEAU. It would make a lot of difference. Right now, we have seven field agents or representatives out around the country.

And really, five of those are actively involved in monitoring, as you would call it, going out and paying site visits.

With that limited number of people, of course, it tends to be a crisis oriented type of response. You know, where the fire is, you have to put the person.

We would be able, I believe, to carry out our responsibilities out in the field with a whole lot more diligence than we are able to now. We do depend a lot on the tribes themselves and their own regulatory structures, their tribal gaming commissions.

And in the case where the state is involved through a tribal State compact, we depend upon the State to some degree. But the responsibility, especially in the class II arena, as I explained earlier, is primarily ours.

I would say with an additional 15 FTE, we would be able to achieve that. We would probably just reach a point where we were processing things efficiently and timely. There are time constraints in the act that we have to comply with.

We cannot just let a tribal ordinance or a management contract sit there and languish. We have to process within certain time limits.

So I think we would just—we would be meeting our responsibility, not necessarily being able to go beyond what the primary responsibilities are.

Senator BENNETT. I am sorry. I distracted you from your prepared statement.

Ms. McKEAG. In addition, if I could add, in addition to the 60 new contracts, which we are processing, there are contracts that we can call in, many of which are not in compliance with the act right now and are hurting the tribes, because the arrangements that they made with management contractors under the BIA is very different from what is required under our more stringent regulations.

Mr. MONTEAU. The inspector general audited some of those a couple years back and found out that some of them were pretty atrocious arrangements. And we suspect that we should be calling more of those in.

But, of course, we are doing the best we can to process the ones that come in currently.

INDUSTRY FUNDING

The FTE limitation, as I said earlier, is something that is imposed by the administration for the purpose of deficit reduction. However, we are not using Treasury dollars for the majority of the FTE that we have currently, which is kind of ironic.

And if we had the ability, I would say, to assess additional fees against, say, class II and class III both—right now we can only assess class II—it would probably enable us to do the job that we were put out there to do. And we would also not be asking to go beyond the present FTE limitations with relation to appropriated dollars.

That is essentially our presentation today.

Senator BENNETT. Have you asked for the authority to assess class III licenses? It would seem to me that would be the most logical place to assess, because that is where the highest potential return is going to come.

Mr. MONTEAU. We have taken that message to the tribes, to see if there is support out there for our being able to do that.

And I believe that there is some general support, because, you know, the tribes view it as being unfair to assess only class II and make class II pay for activities related to class III.

Senator BENNETT. They are right.

Mr. MONTEAU. Senator McCain in the proposed amendments that he introduced recently envisions that we would extend the authority to class III and that there would be a \$25 million cap, but there would also be a lot of increased responsibility in those amendments for activities with relation to class III.

Ms. MCKEAG. It would require an amendment to our existing legislation.

Dr. MONTEAU. Yes.

Senator BENNETT. Are you seeking that authority? I would urge you to do that.

Mr. MONTEAU. We are not seeking that authority at present, because it is, like I said, in the amendments to the IGRA that are being proposed by the Senate Indian Affairs Committee.

However, it is possible that we could seek a technical amendment, you know, outside of that process. But that would have to come—

Senator BENNETT. Yes; that is the proper process. I would just encourage you to push for it.

Mr. MONTEAU. Tom just reminded me that we do have a hearing coming up in June on those amendments, and we will be testifying at that hearing.

Senator BENNETT. OK. Well, for whatever value it is, I would be happy to vote for such an amendment. It just makes all kinds of sense to me.

My reaction to your effort is that it is primarily a law enforcement one.

Mr. MONTEAU. It mixes law enforcement, I think, with really a heavy regulatory process in a cooperative regulatory framework that involves the tribes, the Federal agencies that are involved, which is both us and the Bureau of Indian Affairs and, of course, state agencies when it is called for under a compact.

MONITORING EXISTING OPERATIONS

Senator BENNETT. Yes; well, given the limited resources that you currently have, absent this authority, it appears to some that the Commission should concentrate on effectively monitoring existing operations rather than approving new ones. Have you made a decision with respect to that priority tree? And if not, why not?

Mr. MONTEAU. Our monitoring obligations are basically with regard to the bingo operations that are out there. The obligations in terms of class III do not belong to the National Indian Gaming Commission.

Those obligations are distributed between the tribe and the State or the tribal State compacting process.

Would I prioritize monitoring, No. 1, I think, is really what the question is asking, in terms of what our responsibilities are at this time. I do not believe that we can do that and still do good service to the act or the intentions of the act.

And that is try to protect the tribes as much as possible from corrupt influences out there, but at the same time help them to develop the ability to protect themselves, also.

Like I talked about earlier, when those management contracts are submitted, we have some time lines that we have to deal with. We believe that the service that we are providing to the tribes and to the States that are involved is one of our primary responsibilities.

Ms. McKEAG. If I could just add to the Chairman's statement, as far as monitoring goes, we have five field representatives. There are 225 Indian gaming operations.

Field representatives are located in the field, working out of their homes. But still, it is just—we can use 10 more field people probably and still not have enough people to do the job, just monitoring the class II operations.

Senator BENNETT. What do they do? When you say they monitor, what are they looking for?

Ms. McKEAG. They have visited every single class II gaming operation in the past probably 2 years and most of the class III or class II and III gaming operations.

Their first task was to sit down with the tribes and go through our requirements, to make sure that the tribal officials understood what the requirements of IGRA were.

They pay visits when there are problems, at the request of the tribe.

COMPLIANCE AND ENFORCEMENT

Senator BENNETT. Do they have authority to shut something down if it is not being run properly?

Ms. McKEAG. The Chairman has the authority to do that.

Mr. MONTEAU. The Chairman has that authority.

Ms. McKEAG. But he relies on them to provide him with that information.

Senator BENNETT. What do they look for? Dirty rest rooms or—

Mr. MONTEAU. No; they look for noncompliance with the act. Really, the best—

Senator BENNETT. What is noncompliance?

Ms. McKEAG. Operating without an approved management contract.

Mr. MONTEAU. Without a contract. There may be—

Ms. McKEAG. An ordinance.

Mr. MONTEAU. Noncompliance in terms of a tribal ordinance.

Senator BENNETT. But they do not look for cheating. They do not look for skimming. They do not look for the kinds of things that are endemic to the gaming industry where the real abuses are.

Mr. MONTEAU. If there are activities such as that taking place out there, we will get involved on behalf of the tribe. We will get involved if the FBI is conducting an investigation, or if a State, pursuant to a tribal State compact with the tribe is conducting an investigation, we will participate in that.

So there is a lot of intersecting responsibilities and activities. Most of the time when our agents or field investigators are responding to something out there, it has been brought to our attention through the tribal processes.

The tribe itself has a concern or has identified something that is a problem. And we will go in and try to help resolve it.

Ms. MCKEAG. We do not have criminal law enforcement authority. In the act, that has been left to the Department of Justice and the FBI. So we will share that information with them, if we find those kinds of criminal activities are taking place.

But by and large, there is nothing we can do about it directly. Senator BENNETT. I see; well, I was laboring under a misapprehension.

Senator Reid began his career as the Chairman of the Nevada Gaming Commission. And I spent a little time in Nevada on the periphery of that industry. The Nevada Gaming Commission exists to make sure that you run an honest game. They obviously do not always succeed, but at least the effort is there.

But you are telling me that it is not your responsibility to see to it that they run an honest game.

TRIBAL-STATE RESPONSIBILITIES

Mr. MONTEAU. It is an intersecting responsibility with the tribe and with the State in some cases. The tribes are doing a very good job of regulating their industry.

Most of the tribes that are conducting class III operations have fully functioning gaming commissions. Those commissions work in tandem with us, and they also work in tandem with the State law enforcement, in terms of checking out the people that come to work for them.

Most of them that are involved in the class III casino-type operations have procedures and policies within the operation itself, not just within the Commission, that are as good or meticulous as just about anything you would see out of Las Vegas or Atlantic City.

Senator BENNETT. Your general impression is then that the games are pretty honestly run.

Mr. MONTEAU. They are pretty honestly run. We will not try to whitewash and say that there are no problems out there, because we know there are. And we are working on some of those.

We have taken disciplinary action just this year against five what I would call rogue operations that were not in compliance with the act and got them shut down.

We had some problems with a particular tribe, such that we had to assess a pretty large civil fine against them and, of course, prevent them from engaging in the activity that warranted the fine, too.

Senator BENNETT. Have you seen any indication of organized crime trying to get involved?

Mr. MONTEAU. We have seen indication of criminal elements trying to get involved, or people—not necessarily criminal elements, but people that are downright dishonest and overreaching.

Senator BENNETT. That is a pretty good definition of the criminal element. [Laughter.]

Mr. MONTEAU. But in terms of the way we think about organized crime, an organized family out of Chicago getting involved in Michigan tribes, no, we do not see that. And the FBI and the Justice Department, in their own assessment, has not found that either.

ADDITIONAL COMMITTEE QUESTIONS

Senator BENNETT. I see. Thank you very much. This has been helpful. The subcommittee appreciates your candor and your information. We will submit some additional questions for the record. And as I say, I am sure Senator Reid will have some questions because of his unique background.

Mr. MONTEAU. We will be happy to respond to those in writing. I have also had some visits with individual Senators from time to time on these issues.

Senator BENNETT. OK. Thank you.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Budget Constraints

Question 1: As you are aware, the budget proposals being considered by Congress sharply reduce discretionary spending, which will mean that the allocation for the Interior bill for FY 1996 will likely be significantly lower than the FY 1995 appropriated level. Some scenarios have funding for the Interior bill being reduced by 10 to 20 percent or more. With decreases of this magnitude, all programs within the jurisdiction of the Interior bill, including Indian programs, will receive some portion of these cuts. Within the funding requested in the budget, how would you prioritize funding for programs of the Bureau of Indian Affairs?

Answer: During the week of May 22, 1995, the Bureau hosted the fourth annual National Budget Hearings with tribes. In consultation with the tribes that attended the Hearings, selected to represent all tribes in each area office, the following top priorities were identified.

Tribal Priority Allocations (TPA)

Funding in this activity is the largest source of funding for Self Determination contracts in the Bureau's budget. Tribes, at their option, determine the funding levels to meet needs at the local level. Programs included in this activity include tribal government, law enforcement, tribal courts, community fire protection, higher education scholarships, adult vocational training, social services, Indian Child Welfare Act, the housing improvement program, road maintenance, agriculture, wildlife and Parks, Minerals and Mining, real estate services, environmental quality services, and general administration. Tribal governments contract about 60 percent of the TPA programs under the Indian Self Determination Act, as amended. An inadequate level of funding in TPA programs is the greatest disincentive to tribes in continued or increased contracting.

Contract Support

The Indian Self-Determination Act, as amended, requires that the Bureau provide funds to tribes that operate programs through contracts and Self-Governance compacts with funds for the indirect costs attributable to the programs. Tribes cannot operate effective programs or administrative systems without contract support funds. Sufficient resources to cover these costs are a prerequisite to moving more programs to the local tribal control, thereby increasing the tribal self-determination and reducing direct Bureau presence in local program operations. The FY 1996 budget proposes to move contract support funds to Tribal Priority Allocations. If this occurs, it is essential to provide the requested level of funding rather than rely upon Tribal resources to cover the costs authorized to be appropriated by law. Reduced funding could result in tribes retroceding contracts back to the Bureau for program delivery.

Education

The Bureau's elementary and secondary education programs are high priority. Increased enrollment trends over the last two years are expected to continue over the next several school years. Reductions in school operations funding would hamper the critical mission of Indian education for providing Indian youth with the knowledge and skills they will need to succeed as adults. Increasingly, parents look to the Bureau's school system as a provider of the necessary education that will help raise their tribes' and their own economic status.

Trust Programs

Tribes advocate for continue emphasis of program development that focuses on fulfilling the federal trust responsibility. Trust responsibility, at a minimum, is a legally enforceable fiduciary obligation on the part of the United States to protect Indian lands, assets, resources, and treaty rights. It is through the trust responsibility that the government-to-government relationship with tribes and Alaska Natives is founded.

Question 2: Even if funding for BIA were to remain at the same level of funding as the FY 1995 appropriated level of \$1.747 billion, it would represent a reduction of \$163.5 million, or about 9 percent, from the budget request. How would you propose the Committee make these reductions?

Answer: The Bureau appropriations are the life line for many tribes. There are not enough resources out there on reservations. Without many of the programs and services of the Bureau of Indian Affairs, the tribes will continue to suffer with unemployment six times that of the national level, with families living below the poverty level in substandard housing.

Tribal Land Consolidation

Question 3: The FY 1996 budget request includes \$12.5 million for a tribal land consolidation fund to address the problem of fractionation of ownership of allotted tribal lands. According to the program and financing schedule (page 318), approximately \$6.5 million of the funds are expected to remain unobligated at the end of the fiscal year. Please explain how the tribal land consolidation fund will operate.

Answer: Basically, the tribal land consolidation initiative has two primary elements. First, it provides a mechanism to consolidate existing highly fractionated interests. Secondly, it establishes a means of reducing or slowing fractionation through limitations on inheritance. The fund will be utilized for the acquisition of highly fractionated interests by which the income generated from such interests will be deposited into accounts and used for acquisition of additional interests. The tribal land consolidation initiative is not a general land acquisition program. Funds will only be used to purchase the most highly fractionated interests; initially those less than 2 percent.

Question 4: What is the mechanism for funding the land purchases? Is the Department proposing to establish a revolving fund or award grants or some other method? Please describe the relative merits of each of these methods of financing.

Answer: The draft legislative proposal that was circulated to individual Indian landowners and tribes proposes an Acquisition Fund, that would operate similar to a revolving fund. Funds appropriated would be disbursed from the Fund to acquire highly fractionated interests; these acquisitions would be made directly by BIA or contracted/compacted by tribes. Revenues collected from acquired interests would be deposited into the fund and made available for purchases of additional interests. The primary benefit of this method is that it provides a mechanism to recoup the Government's investment. A disadvantage is the need to establish a simple administrative mechanism to determine when sufficient revenues have been collected to recoup purchase prices.

Alternative methods of funding acquisitions have been proposed during the consultation period. These alternatives include loans and grants to tribes.

A loan program would extend loans to tribes to establish their own land consolidation programs. The benefits of this option include: recoupment of the federal investment and an increased amount available for purchases, as the loans would be scored consistent with Credit Reform Act requirements. A disadvantage is the need to establish an administrative mechanism for loan administration.

A third option would award grants to tribes. While this method would eliminate the need to establish additional collection-related administrative mechanisms, it would eliminate any recoupment of the Federal Government's investment. Additionally, monitoring controls would need to be established to ensure that funds are used only to purchase the most highly fractionated interests.

Question 5: When do you expect the revenues from the consolidated land to be equal to the cost of acquiring the properties? When do you expect that the income from the acquired properties would be sufficient to repay the \$12.5 million?

Answer: Recoupment of revenues would vary depending on which of the above methods (or combination) are used. Clearly, grants would offer no recoupment. The rate of recoupment for

the other methods would vary based on the rate of land consolidation, the income stream produced by the consolidated lands, loan terms, and default rates.

More importantly, we should note the costs of doing nothing. The Bureau estimates that the cost of administering fractionated lands is approximately \$50 million per year, and getting worse.

While approximately \$300 million is needed to consolidate the smallest interests (1-10 percent) that comprise 80 percent of this workload, the Federal investment would actually be much smaller. This is because the income gained from the interests purchased would be used to offset the dollars expended for future purchases.

Second, consolidation of the interests, although requiring an initial Federal investment to get the program going, would reduce the Bureau's annual administrative costs by an estimated \$10-15 million per year. This reduced administrative burden would result in estimate savings of at least \$35 million per year.

Question 6: Why is the Bureau requesting \$12.5 million for the program, when approximately \$6.5 million is expected to remain unobligated at the end of the year? Why not request the \$6.5 million in FY 1997?

Answer: As noted above, the total estimated gross cost to consolidate highly fractionated interests is \$300 million. Severe budget constraints make future budget increases difficult, particularly when additional spending does not create immediate savings. The 1996 request level represents what the Department believes is a minimum base funding level for the program. Since this will be a new program in 1996, it is anticipated that there may be some delay in implementation. On an annual recurring basis, there will be no difficulty in obligating the funds at the request level.

Question 7: What is the status of the legislative proposal authorizing the fund? When do you expect the authorizing legislation to be transmitted to Congress? Are the authorizing committees supportive of the proposal? Are the tribes supportive of this proposal?

Answer: The Bureau sent out questionnaires to over 100,000 Indian land owners, and held numerous consultation sessions attended by approximately 15,000 people throughout the country. Responses received to date indicate that the tribes and individual owners are generally supportive of the proposal. Over half of the individual owners have indicated a willingness to sell their interests.

In addition, a first draft of a legislative proposal was prepared and submitted for review to Indian land owners and tribes. During the consultation period, many landowners opposed enactment of certain inheritance restrictions. Inheritance restrictions are essential in preventing further fractionation. Since inheritance law reform could prove to be a major stumbling block to enactment of legislation, the Department is considering the merits of limiting the program to tribes that have either tribal or federal inheritance restrictions already in place. This way, the program would operate as an incentive for tribes to voluntarily put into place inheritance restrictions. Indeed, several tribes already have inheritance restrictions that limit further fractionation. The Department is now modifying the draft proposal based on comments received from the questionnaire and consultations, and anticipates that proposed legislation will be submitted to Congress once this process is complete. Thus, the authorizing committees have not yet reviewed the proposal.

Question 8: If the Bureau is held to the FY 1995 level of funding, or is cut below that level, what is the priority of this program?

Answer: Land fractionation is directly and significantly related to trust funds management, a longstanding problem that Congress and the Administration have committed to reforming. As such, this request is a FY 1996 priority. However, should funding be held at or below the FY 1995 level, the Department would necessarily prefer to maintain funding for existing programs which would, if cut, have more immediate dire consequences: school operations, tribal priority allocations, and trust responsibilities.

School Operations

Question 9: For school operations, the FY 1996 budget request is \$440,085,000, which is an increase of approximately \$32.8 million, or about 8 percent, above the FY 1995 enacted level of \$407.3 million. For the Indian School Equalization Program formula funds, \$277,643,000 is requested, which is an increase of approximately \$17.9 million, or about 7 percent, above the FY 1995 level of \$259.8 million. The full-time equivalents (FTEs) associated with the ISEP formula funds is 2,830 in FY 1996, which represents an increase of 50 above the FY 1995 level. How much of the increase in ISEP formula funds is associated with an increase in enrollment and how much of the funding represents an increase to the funding level per weighted student unit? Within the overall BIA budget, what is the priority of the increase requested for ISEP formula funds? What would be the impact of not providing the requested increase, or providing only a portion of the requested increase?

Answer: Of the increase in ISEP, about 73 percent is associated with increased enrollment and about 27 percent is associated with the increased WSU level. The tribes cite Indian education as one of their highest priority needs, as quality education is an essential component in reducing unemployment, increasing self esteem, improving community life, and increasing economic opportunity on Indian reservations. The importance that the Department places on Indian education is obvious in the FY 1996 budget request, where over one-third of the BIA operating budget is devoted to Indian Education. The increases requested in FY 1996 are necessary for the BIA schools to have sufficient funds to pay teachers and maintain compliance with accreditation standards. However, every one of the non-Education BIA programs are also critical to improving life on reservations, and any reductions to these programs would have a serious impact in Indian country, possibly reversing any progress made in achieving Indian Self-Determination. The FY 1996 budget request for BIA is based on providing tribes with the resources needed to develop strong and stable governments capable of administering quality programs and developing the economies of their respective communities.

The impact of not providing the requested increase or providing only a portion of the requested increase could mean that BIA won't have the funds to pay teachers' salaries or provide transportation for all the children in BIA schools. Bureau schools have worked hard to get to the point to where they meet state and regional accreditation standards, yet reductions could put schools in danger of losing their accreditation. There is a problem with the safety of school facilities as well as reductions in education facilities improvement and repair projects may mean that BIA school children will have to remain in crowded and unsafe school buildings. Some schools may have to be closed if the BIA cannot provide these children with a sound education in a safe environment.

Question 10: What is the basis for the increase of 50 FTEs above the FY 1995 level? Are these FTE's just for BIA operated schools? If so, what are the FTE increases planned for contract and grant schools that will funded through the ISEP formula funds?

Answer: Yes, the FTEs are for the Bureau operated schools. The increase in FTEs was based on the projected staff required at the Bureau operated schools to support the anticipated increase in enrollment. After the budget request was finalized, three schools elected to become grant eliminating the need for the additional FTEs. The FTEs for grant and contract schools are not reported to the Bureau and not included in the Bureau's total.

Question 11: Between FY 1992 (school year 1992-1993) and FY 1994 (school year 1994-1995), the amount appropriated for ISEP formula funds has increased from \$201,932,000 to \$249,506,000, which represents an increase of approximately \$47.5 million, or about 24 percent. The FY 1996 (school year 1996-1997) request of \$277,643,000 represents an increase of approximately \$75.7 million, or about 37 percent, above the FY 1992 level of funding. What improvements to BIA-funded education have resulted from this increase in funding? Have there been any improvements in test scores, graduation rates, absenteeism, teacher retention rates, or school accreditation? If it is too early to determine the impacts of this increased funding, when will you be able to evaluate the effect of the increases?

Answer: In answering this question, it must be kept in mind that the increase cited is in nominal versus constant dollars and that in FY 1992 an additional \$7.4 million was reprogrammed to cover shortfalls in ISEP. Further, the increase in the numbers of students must also be considered. In constant FY 1992 dollars, The FY 1996 request is \$251,443,997, which represents an increase of roughly \$41 million or 20.1 percent. During this same period, ADM has grown from 43,700 to an estimated 51,341, a ten percent increase. Constant dollar per average daily membership (ADM) funding has grown from \$4,789 to \$4,880 projected for FY 1996. This represents only a 2.3 percent increase over FY 1992, a low year in terms of per WSU funding. Data show that an increased number of schools are in compliance with state and regional academic standards. Otherwise, it is difficult to collect data however, the FY 1996 proposal for funding the ADP package will help.

ISEP Travel and Training

Question 12: As requested, the BIA included information in the FY 1996 budget justifications on the ISEP formula funds spent on travel and training. The table found on page 92 of the budget justifications provides information by area on the purpose of travel and the amount of training. The total spent for this purpose was \$960,000, including \$626,000 for travel and \$335,000 for training. The information provided in the justifications represents data from 91 BIA-operated schools. What was the basis for not providing information on contract and grant schools? What information is available to the Bureau on the amount of ISEP funds spent by contract or grant schools on travel?

Answer: Contract and grant schools are not required to report any information not specifically requested in the work statement of their grant or contract. The Bureau can request such information, but the schools are under no obligation to provide it. Since the grants are negotiated at least eighteen months in advance of the budget submission, a grant or contract modification would be required to request additional information.

Question 13: Does the BIA have the authority to limit the amount of ISEP funds spent on travel either by contract and grant schools or by Bureau-operated schools? If so, to what extent has the Bureau exercised this authority? What approval process is required for school and school board staff for travel and training? How does this process vary between BIA-operated schools and contract and grant schools? What is the approval process for travel by agency, area, and central office education staff?

Answer: The Bureau has the authority to limit the amount of ISEP funds for the Bureau operated schools by recommending to school boards that no travel or training be allowed using ISEP funds. The Bureau has issued several memoranda of guidance concerning travel in recent months. The approval process may vary between agencies, but generally at the Bureau operated schools, all training and travel is approved by the Education Line Officer. They also approve the travel of the chief school administrator/principal. Travel for school staff is approved by the principal. The approval process for contract and grant schools varies with each tribal contract/grant but is restricted by the expenditure limitations for school board expenses per 25 USC 2008 (c)(2)(c). Contract and grant schools may also use Administrative Cost grant funds for school board expenses and travel without limitation.

Travel approval for the Area and Agency Line Officers has been delegated to the Line Officer except for travel to Washington, DC or to other restricted areas. Line Officers may approve travel for their staff. Central Office travel is approved by each Branch Chief and the Director, OIEP.

Question 14: How does the amount of funding spent by the BIA education programs on travel compare with the amount spent by the rest of the Bureau?

Answer: In FY 1994, the Bureau operated schools and programs spent 1.2 percent of total education funding for travel compared to 1.5 percent spent by all other Operation of Indian Programs. Unfortunately, the schools in the Bureau system are not clustered around metropolitan areas, but scattered in 23 states, with some located in very isolated areas.

Question 15: What is the process for determining what training and national meetings are held each year and who attends these meetings?

Answer: At the beginning of each school year, the OIEP staff review current changes in legislation, revised guidelines, new methodology and technologies impacting Bureau funded school programs and plan the training and national meetings that provide school personnel with this information. The staff who attend the training and national meetings work directly with the operation of the various programs, such as Chapter 1, school improvement, special education, or Family and Childhood Education (FACE).

Question 16: The February 1995 issue of "American Indian Education News" published by the Office of Indian Education Programs, included a list of conferences and meetings to be held around the country through July 1995. Included in this list of conferences is the Second Annual FACE Conference, which was to be held from February 27 - March 3, 1995, in San Diego, California. The First Annual FACE Conference was held in October, 1993 in Orlando, Florida. How are the locations for these conferences determined? Who sponsored and funded these conferences? What BIA staff attended these conferences? Out of the total FACE staff at the school level, how many attended the conference? Specifically, what was accomplished at the FACE conferences? How do you determine the success of a particular conference? Please provide the agenda for each of the FACE conferences.

Answer: Information regarding the agenda for the conferences is given to the meeting planner who reviews bids from the hotels that can accommodate the needs. The locations are determined by the space needed for sleeping rooms as well as meeting space available. Transportation costs include availability of the facility to an airport. The facility must be full service to reduce the need for rental vehicles. Weather must be a consideration since there are additional costs associated with inclement weather by airlines and airport transportation.

The OIEP, Early Childhood program sponsored and funded the programs. All 21 of the FACE site staff at the local level attended the conferences. The OIEP staff who attended the Orlando conference were the Director, Deputy Director, Branch Chief, Elementary and Secondary and one Education Specialist. The Deputy Director and one Education Specialist attended the San Diego meeting.

The conferences provided training for the FACE staff based on the needs of the programs as indicated by input from the sites. Participants received training in effective techniques to use for implementing the programs such as early childhood development of "Whole Language" and identification of children with attention disorder syndrome. The success is determined by the participants' evaluation of the conference as well as the continued and improved effectiveness of service delivery by the program participants. The FACE conference agendas are provided on the following pages.

Question 17: What training was accomplished at these national conferences that cannot be provided otherwise? How much of the total funding for the FACE program goes towards training? Of the amount spent for training, how much involves travel? How much of this travel is involved in national meetings?

Answer: The training that was accomplished included training from the Parents as Teachers organization and Center for Family Literacy in the newest trends in early childhood education. The cost of the speakers and trainers provided at the national conferences would be prohibitive for each school to have on site training. It is more cost effective to provide training to people in large groups. In addition, the participants learn from each other. Approximately 15 percent of FACE funding is used for travel and training of which sixty-five percent was for travel and thirty-five percent for training.

FIRST ANNUAL BIA F.A.C.E. CONFERENCE, ORLANDO, FL
FAMILY AND CHILD EDUCATION

Monday, October 4

8:00 a.m. - 11:00 p.m. Registration

Flamingo Grove Lobby

8:00 a.m. - 1:00 p.m. Set up for Showcase

Manatee B

1:00 p.m. - 3:00 p.m. Showcase of Programs

Manatee B

Tuesday, October 5

8:30 a.m. - 10:30 a.m. Opening Ceremonies
Manatee A & B Drummers and Singers: Ben Hanley and members of the Tahatchi Chapter and Chuska School
Opening Prayer: Harold Condon, Cheyenne River Reservation
Welcome and Introduction of Guests: Dr. John Tippeconnic, Director, Office of Indian Education Programs
Challenge to Participants: Ada Deer, Assistant Secretary for Indian Affairs, Washington, D.C.
Keynote Speaker: Dr. Edward Zigler, Sterling Professor of Psychology, Director of Bush Center for Child Development, Yale University
Keynote Topic: "Reshaping Early Childhood Intervention to be a More Effective Weapon Against Poverty"

10:30 a.m. - 10:55 a.m. Break

11:00 a.m. - 12:00 noon Informal Question and Answer Panel
Turtle Ballroom Dr. Edward Zigler
Mildred Winter, Executive Director, Parents as Teachers National Center, Inc.
Sharon Darling, President, National Center for Family Literacy

12:00 noon - 1:25 p.m. Lunch

1:30 p.m. - 4:30 p.m. Advanced Teams
Turtle A Ofelia Zepeda, Native American Writer and representative of the Pen Readers and Writers Group will read and discuss her own work. Ms. Zepeda will also discuss how sites can host authors for special presentations to their students.

New Teams**Turtle B & C**

Ted Bowman, Wilder Foundation Family Counselor, will coach site staff members in a Group Dynamics and Team Building Session. Successful sites operate as a family, but this is easier said than done. Mr. Bowman will work on techniques to strengthen our team management.

(2:45 p.m. - 3:15 p.m.)**Break)****5:30 p.m. - 6:30 p.m.****Reception Pool Area****Wednesday, October 6****8:30 a.m. - 10:00 a.m.****Turtle Ballroom****Gathering Session**

Opening Prayer: Mark Sorenson, Little Singer

Story: Rita Nelson, Chi Chil Tah-Jones Ranch

Featured Speaker: Dr. John Tippeconnic, Director
Office of Indian Education Programs

10:00 a.m. - 10:25 a.m.**Break****10:30 a.m. - 12:00 noon***eracy.*

In-Service staff development sessions conducted by trainers from Parents as Teachers National Center, Inc. and National Center for Family Lit-

Advanced Teams:**Turtle A****Center-Based All Teachers: Curriculum Building/Integration****Key Deer A****Home-Based Parent Educators: Follow-up: Denver II****New Teams:****Turtle B**

**Center-Based Adult Educators: Review of CASAS and
Crosswalking with GED**

Turtle C

**Center-Based Early Childhood Teachers/Co-Teachers:
Assessment with Child Observation Record (COR)**

Key Deer B**Home-Based Parent Educators: Assessment with Denver II****12:00 noon - 1:25 p.m.****Lunch****1:30 p.m. - 4:00 p.m.****Advanced Teams:****Turtle A**

**All Staff of Center-Based and Home-Based
Documentation of Growth in Family Portfolios**

New Teams:**Turtle B**

**Center-Based Adult Educators: Continue Life Skills and
GED competencies**

Turtle C

**Center-Based Early Childhood Teachers/Co-Teachers:
Continue COR Assessment**

Key Deer B**Home-Based Parent Educators: Continue Denver II****Wood Stork**

**Administrators: Meet with Patsy Jones, BIA and Vicki Yarnell,
Research and Training Associates**

Thursday, October 7

8:30 a.m. - 10:00 a.m. Gathering Session
Turtle Ballroom **Featured Speaker:** Ada Deer, Assistant Secretary for Indian Affairs
Song: Raymond Deal, Toadlena
Story Telling and Lesson Learning: Michelle Chingwa, BIA

10:00 a.m. - 10:25 a.m. Break

The concurrent sessions from 10:30-4:15 follow the themes of **Families In Crisis** or **Keepers of the Earth**. While each person should follow one theme for the day, the site team should split up and attend a variety of sessions so information can be shared with the team.

Families in Crisis

- 10:30 a.m. - 12:00 noon Building Partnerships: Peer Mentors for Home and Center Based.**
Turtle A Making teamwork and program integration a priority to encourage the formation of partnerships among staff, clients and families that enhance feelings of empowerment.
Donna Butler, Shirley LaPointe, Wayne Cooke, Melanie Stafford, Becky Sheldon, Norm Dorpat -- Chief Leschi
- Key Deer A This Can't Be Happening To Us.** The effects of one family member's crisis on the entire family.
Charles Geboe -- Office of Indian Education Programs
- Wood Stork Serving Special Needs Children at Home.** Identifying and serving children with special needs and ideas for appropriate in-home activities for these children.
Susan Neddeau, Darlene Sandoval, Violet Walters, Louise Willein, Sharon Rico -- Torreon
- 12:00 noon- 1:25 p.m. Lunch**
- 1:30 p.m. - 2:45 p.m. Family Addiction.** Becoming a healthy, functional family after addiction.
Turtle A *Harold Condon -- Takini*
- Wood Stork Empowering Parents.** Using the Children's Bill of Rights as a guide, how to assist adults in writing their own Bill of Rights.
Michelle Chingwa -- Educational Specialist, BIA and Dr. Meta Potts -- NCFL
- Key Deer A This Can't Be Happening To Us.** The effects of one family member's crisis on the entire family.
Charles Geboe -- Office of Indian Education Programs
- 2:45 p.m. - 3:00 p.m. Break**
- 3:05 p.m. - 4:15 p.m. Facing the World and Putting the Pieces Together: Adult Educational**
Key Deer A Improvements of Unlimited Yield. Educational tools and resources for enhancing the quality of family life, empowering families in crisis to achieve healing, hope and wholesome living.
Joy McGarity, Pat Ford -- Connechata
- Turtle A The Effects of Alcohol and Drug Abuse on Families.** The devastating effects of abuse, and coping skills to deal with the pain and stress.
Harold Condon -- Takini
- Wood Stork Indian Health Services.**
Cheryl Wilson -- Mental Health Specialist, Indian Health Services

Keepers of the Earth

- 10:30 a.m. - 12:00 noon Hands-On Science.** Making science labs and other manipulative equipment
Key Deer B using discarded household items and traditional Native American materials.
Frances Rittenhouse -- Parents as Teachers National Center, Inc. and Fond du Lac Staff

- Turtle B** **Sitting at the Kitchen Table.** Reviewing adult education teaching strategies.
Linda Hunter and Takini Staff
- Turtle C** **You and Me and Mother Earth.** Creative story telling techniques using materials available for both center and home based programs.
Maria Christopher--Blackwaier
- 12:00 noon - 1:25 p.m.** **Lunch**
- 1:30 p.m. - 2:45 p.m.** **Hands-On Science.** Making science labs and other manipulative equipment using discarded household items and traditional Native American materials.
Frances Rittenhouse--Parents as Teachers National Center, Inc. and Fond du Lac Staff
- Key Deer B**
- Turtle B** **Living in Harmony.** Working with families to find the balance between who they are (culture) and who they could be (self esteem). Validating, respecting, recognizing and appreciating each family's beliefs, customs, values and language.
Colleen Alivado, Elaine Begay, Elayne Costello, Kathleen Herrera, Orlando Esparza--Canoncito
- Turtle C** **From Native Plants to Natural Medicine.** Ideas for working with parents and children to share the uses of native plants.
Mark Sorenson--Little Singer
- 2:45 p.m. - 3:00 p.m.** **Break**
- 3:05 p.m. 4:15 p.m.** **Teachables from Trashables.** PACT time activities using recyclables to make classroom items and home-based materials.
Pat Peterman, Ann Vlau, Diane Johnson, Rose Potvin, Theresa Mathias, Diana LeClaire--Hannahville
- Key Deer B**
- Turtle B** **The Community Where I Live.** FACE community big book demonstration activity that can be used in group meetings or at Parent Time.
David Acuna, Barbara Houke, Catherine Wellio, Ruby Montoya, Roselynn Sala Torreon
- Turtle C** **Native Games.** Native Games to use in PACT time with parents and children.
Loretta Draper, Mildred Tyler, Clara Toledo, Pearl Sutherland, Doris Charley--Wingate

Friday, October 8

- 8:30 a.m. - 9:15 a.m.** **Gathering Session**
Turtle Ballroom **Featured Speaker:** Chief Phillip Martin
Mississippi Band of Choctaw Indians
Topic: Economic Development, Entrepreneurship, and Family Education
- 9:15 a.m. - 9:45 a.m.** **Break**
- 9:45 a.m. - 10:45 a.m.** **Concurrent Sessions**
- Turtle A** **Tom Miller, Superintendent, Hannahville**
The FACE program and its interaction with the total community concept
- Turtle B** **Coy Satterfield, Director, Rural Expansion Program for Junior Achievement**
The principles of Junior Achievement applied to Family Education.
- Turtle C** **Jerry Folsom, Chief, Division of Financial Assistance,**
BIA, Office of Economic Development
The interrelationship of education, community development, and economic development

Key Deer A

Terry Albers, Director, The Center for Restructuring

Empowering individuals and organizations to create new visions-economic development

10:45 a.m. - 11:00 a.m. Break

11:00 a.m. - 12:30 p.m. Awards Presentations

Turtle Ballroom

Closing Ceremony: Rough Rock Community School Board
 Navajo Beauty Way
 "A Journey Song"
 Closing Prayer

Conducted by: Mr. Joe Bia, Navajo Medicine Man

Assisted by: Mr. Ernest Dick, President

Mr. Gene Johnson, Member

Ms. Gilene Begay, Member

Parents As Teachers Staff

Mildred Winter, Director

Sue Sheehan, Director of Training

Frances Rittenhouse, Trainer

Judy Saurage, Trainer

Sue Russell, Trainer

Marlo Niehaus, Trainer

Marsha Gebhardt, Trainer

National Center for Family Literacy Staff

Sharon Darling, President

Meta Potts, Director, Adult Learning Services

Leslie Mass, Family Literacy Specialist

Sharyl Emberton, Family Literacy Specialist

Ardith Hannula, Adjunct Trainer

Marilyn Weatherspoon, Adjunct Trainer

F.A.C.E. Sites

Alamo Navajo Community School

Blackwater Community School

Canoncito Community School

Chi Chil Tah-Jones Ranch Community School

Chief Leschi School

Chinle Boarding School

Chuska Boarding School

Connehatta Elementary School

Crownpoint Boarding School

Fond Du Lac Ojibwe School

Hannahville Indian School

Kickapoo Nation School

Lac Courte Oreilles Ojibwe School
 Little Singer Community School
 Rough Rock Community School
 Sac & Fox Settlement School
 Shiprock Alternative School
 Takini School
 Toadlena Boarding School
 Torreon Day School
 Wingate Elementary School

Monday, February 27

8:30 a.m. - 11:30 a.m. Registration
 Foyer
 12:00 noon - 1:00 p.m. Showcase Set up
 Club Room
 1:00 p.m. - 3:00 p.m. Showcase of Programs
 Club Room
 3:00 p.m. - 4:30 p.m. Component Sessions
 Palm Room Parent Educators
 Tower Room Center-based Staff
 Executive Room Coordinators

Tuesday, February 28

8:30 - 11:30 a.m. Opening Ceremonies
 Crystal Ballroom Drummers & Singers - Representative of the California
 Indian Human Resource Center and
 Raymond Deal, Toadlena
 Special Presentations
 Tera Pino, Blackwater
 Welcome and Introduction of Guests
 Patsy Jones, Education Specialist, OIEP/BIA
 Challenge to Participants
 Ada Deer, Assistant Secretary for Indian Affairs,
 Washington, D.C.
 F.A.C.E. Sites Presentation
 The Elders are Watching
 Keynote Speaker
 Judy Pfannenstiel
 President, Research and Training Associates
 Overland Park, Kansas
 Keynote Topic: "Families Face New Futures"

11:30 a.m. - 1:00 p.m.	Lunch
1:00 p.m. - 4:30 p.m.	Featured Speaker Presentations

Tower Room	Reducing Stress & Trauma to Help Families Face the Future with Hope Ted Bowman, The Wilder Foundation
Palm Room	Dealing with Stress and Trauma in Traditional Ways Amy Walker, Cherokee Agency, BIA
Crystal Room	How to Work with Infants & Children's Emotions at Home and at School Dr. Susanne Brown, Indian Health Services

Wednesday, March 1

8:30 - 9:15 a.m.	Morning Gathering Session
Crystal Ballroom	Opening by La Courte Oreilles F.A.C.E. Staff
9:15 - 10:30 a.m.	Presentations
Terrace Room	Creating A Comfort Zone For F.A.C.E. Families. Come and experience this "comfort zone" for developing and discussing ways to make your site a setting that provides encouragement and serenity for families. David Acuna, Susan Neddeau-Torreon
Crystal Room	Integrating Community Culture and Values into Home-based and Center-based Settings. A hands-on session demonstrating how various cultural activities can be used to develop the key experiences and home-based lesson activities. Jerry Babylon, Arlinda Begay, Gloria Mailboy, Geneva Nez--Rough Rock
Tower Room	Building A Bilingual Thematic Unit Around Children's Literature. This hands-on presentation will take you from thinking to planning, from construction to presentation and include the use of puppets and books. Nora Begay, Phil Belone, Christine Edsitty-Beach, Glenda Rodriguez, Esther Shirley--Chuska
Poolview Room	Goal Setting in the Total Program. Discover an effective way to assist parents and children in proactively approaching goal setting in Center and Home-based settings. Loretta Arviso, Rita Nelson, Bernice Skeet, Theresa Wauneka--Chi Chil Tah
Palm Room	Collaboration, Coordination, and the Community. The challenges and rewards of finding ways to meet the personal dreams of families by utilizing the total resources of your community. S. Jo Lewis, Gwen Paul, Andrea Perkins, Jacquelyn Power, Edwardine Thomas, Waylon Wilson--Blackwater
Executive Room	Family and Child Education Through Hawaiian Language Immersion Preschools. Explore how Native Hawaiians have found educational success through language immersion education. Eric M. Kapono--'Aha Punana Leo- Hawaiian Language Preschools

10:30 - 10:45 a.m.	Break
10:45 - 12:00 noon	Presentations
Terrace Room	Getting the Most Out of Children's Books. Using favorite books as jumping off points for learning activities so families and staff can stretch book play. Parents As Teachers Trainers
Executive Room	Parents Can Use the Key Experiences to Assess, Set Goals, and Plan Activities for their Children. Learn a method for training parents on the key experiences to guide observations and expectations for their children and plan developmentally appropriate activities. Diana Baumlér, Diane Johnson, Patricia Peterman, Rose Potvin, Ann Viau, Mary Wandahsega--Hannahville
Crystal Room	Maximizing the Parental Benefits of PACT Time. Empowering parents to become PACT participants, leaders, and observers, and the resulting benefits to families. Raymond Deal, Karlene Metteba, Loretta Wheeler, Evangeline Yazzie--Toadlena
Tower Room	Family Support Plans and Documentation. Moving families towards self-sufficiency and empowerment through the use of needs assessment, goal setting, and family action plans. Wayne Cooke, Chief Leschi, Ellen Papineau--Kickapoo
Poolview Room	The How's and Why's of Portfolios for Adult Students. Realistic approaches to using portfolios, including what to include in the portfolio and criteria for analyzing materials. Michele Perry--National Center for Family Literacy
Palm Room	Emergent Literacy Every Day in Every Way. Ensuring that children's literacy skills can develop throughout each day in natural ways. Leslie Mass -- National Center for Family Literacy
Director's Room	Coordinator's Meeting led by Patsy Jones
12:00 noon - 1:00 p.m.	Lunch
1:00 - 2:30 p.m.	Special Presentation
Crystal Ballroom	Turning Tomorrow's Leaders into Today's Readers. Jim Trelease, Author of <i>The Read Aloud Handbook</i>
2:30 - 4:00 p.m.	
Crystal Ballroom	Exploring Children's Literature and Developing Annotated Bibliographies for Program Sharing
7:00 - 8:30 p.m.	Traditional Dress Fashion Show & Reception. Presented by F. A. C. E. Staff and families. Led by Chinle F. A. C.E. Staff with participation by Representatives of the California Indian Human Resource Center
	Thursday, March 2
8:30 - 9:15 a.m.	Morning Gathering Session
Crystal Ballroom	Opening by Sac & Fox F.A.C.E. Staff

9:15 - 10:30 a.m.

Executive Room

Presentations

What's Cooking in Family Education? In this hands-on, multi-sensory, and interactive session, participants will experience an effective group meeting. Gordon Brill, Marion Case, Beatrice Charging Eagle, Linda Hunter, Delight Halfred, June Hollow Horn, Iliese Oakie-Takini

Tower Room

Storytelling Strategies—Group Painting, Story Boxes, and Other Teaching Tools. This make and take session will provide ideas for the Early Childhood and Adult Education classrooms, and the home. Doris Charley, Charles Dixon, Pearl Sutherland, Clara Toledo, Mildred Tyler—Wingate

Crystal Ballroom

Goal Setting in the Total Program. Discover an effective way to assist parents and children in proactively approaching goal setting in Center and Home-based settings. Loretta Arviso, Rita Nelson, Bernice Skeet, Theresa Wauneka—Chi Chil Tah

Palm Room

Indian Education—Goals 2000. This session will provide information about Goals 2000. Sandra Fox—Office of Indian Education Programs, BIA

Terrace Room

Team Collaboration—Home-based and Center-based—Cultural Applications. How lesson plans can be developed which can be collaboratively used by Parents Educators, Early Childhood Teachers, and Adult Educator Teachers. Marie Arviso, Karletta Charlee, Evelyn Henry, Bernice Johnson, Lorraine Yazzie—Crownpoint

Poolview Room

Native Plants and Parents—A Traditional Party. Using the Navajo Shoe Game and Native Tea to provide opportunities for parents and children to learn about the uses of native plants. Geraldine Begay, Eva Curley, Gladys Freddie, Sarah Leon, Ramona Staires, Mark Sorensen, Trisha Yazzie—Little Singer

10:30 - 10:45 a.m.

Break

10:45 - 12:00 noon

Special Presentation

Crystal Ballroom

Personal Development for Building Collaborative FACE to FACE Teams.
Cheryl Thornbrugh, President, Action Path

12:00 noon - 1:30 p.m.

Lunch

1:30 - 4:30 p.m.

Team Building Session Continues

7:00 - 9:00 p.m.

Crystal Ballroom

Exhibition Pow Wow & Reception
Presented by F.A.C.E. Staff and families. Led by Canoncito F.A.C.E. Staff with participation by Representatives of the California Indian Human Resource Center

Friday, March 3

8:30 - 12:30 p.m.

Closing Ceremonies

Crystal Ballroom

Opening led by Toadlena F.A.C.E. Staff
Featured Speaker: Billy Mills
Topic: "Motivating Families to Face New Futures"
Awards Presentations
Closing: *The Circle of Life*

Presented by the California Indian Human Resource Center

Question 18: What was the total cost for the FACE conference that was paid for by funding provided through the Interior bill and from what activities was this funding provided? How much of the funding was provided through the central office education program management account and how much was paid by the local schools where personnel attending the conferences are employed?

Answer: In FY 1993-1994, the FACE training at Orlando, FL funded by BIA cost \$28,000. The total cost of training funded by BIA for the year for all FACE sites was \$723,154. The training was provided by the National Center for Family Literacy (NCFL) and Parents As Teachers (PAT). The FACE sites each set aside \$10,000 for training and travel. Approximately \$5,000 was spent from the Central Office account for books and tapes. In FY 1994-1995, the FACE training at San Diego, CA cost \$98,000. The total cost of training for the year funded by the BIA was \$979,510. The funds paid for training, trainers, travel, materials, and books for the sites. The increase in cost was because the first year, the NCFL and PAT did not charge for their services, but did charge for the second year.

Question 19: What is the relative priority of this training compared with providing classroom materials, such as textbooks, or covering shortfalls in transportation?

Answer: The Bureau believes that early childhood education is critical for students entering school. The students lose in the long run if they are not ready to learn. Studies indicate that for every dollar invested, there is a return of \$6.00. There is a high cost associated with children who drop out or do poorly in school. Unfortunately, the Early Childhood program is new and training is needed if the Bureau is going to have a successful program. It is a high priority although textbooks and transportation are also very important. Establishing a firm learning foundation at an early age is important.

Question 20: Also listed is "The 3rd Annual National Conference on Gifted and Talented Education for Native People" to be held from July 10-13, 1995, in Hilo, Hawaii. What BIA staff will be attending this conference? Does the Office of Indian Education Programs have the authority to prohibit contract and grant schools from using ISEP funds or any funds provided by BIA to travel to the conference in Hawaii? Who is the sponsor of this meetings and what is the source of funding for the meeting? Where were the first and second annual national conferences held? How much BIA funding was spent for attendance at the first two conferences?

Answer: No Bureau staff or staff from Bureau operated schools will attend "The 3rd Annual National Conference on Gifted and Talented Education for Native People" in Hawaii. The conference is sponsored by Oklahoma State University and the University of Hawaii. No Bureau funds were used for the conference, even though the Bureau was erroneously listed as a co-sponsor.

The first national conference was held in August 1993 in Albuquerque, NM and the second in August 1994 in San Diego, CA. They were sponsored by the University of Oklahoma. No Bureau funding was spent on these conferences except for travel expenses of the two staff from Central Office who did attend the national conference in San Diego.

FY 1995 Rescissions

Question 21: The Senate version of the rescission bill included a reduction of \$750,000 to the forward-funded education programs. Report language specified that the reduction was to be taken from travel expenses not related to student transportation. What is the expected impact of this reduction? How will the reduction be applied?

Answer: The impact is \$8.72 per WSU but should not affect instruction. The OIEP will advise all schools to reduce their travel from last year by \$8.72 per WSU.

Limitation on the Number of BIA Schools

Question 22: *Public Law 103-332* contained language which limits the number of BIA-funded schools*for school years 1994-1995 and 1995-1996 to the 187 schools which will be in the BIA school system as of September 1, 1995. According to the budget justifications (page 94), the Office of Indian Education Programs is meeting with the authorizing committees to discuss the policy of limiting schools in times of budget constraints. What has been discussed with the authorizing committees regarding the limitation on the number of schools? Have the authorizing committees given any indication on whether or not they will take any action on this issue? Without any language limiting the number of schools, how many schools would likely be admitted into the BIA system in FY 1997?

Answer: The Bureau has not met with the authorizing committees regarding the limitation on the number of schools. The authorizing committees have not given any indication of intention to take action on this subject. The Bureau is using the appropriation language to limit the number of schools. Without the language limiting the number of schools, three schools would have been admitted into the system.

Question 23: How many public schools have been closed or are expected to be closed on or near Indian reservations? What is the cause of the closure of these schools? Have any of these schools indicated that they would like to become part of the BIA school system?

Answer: The Bureau was notified in mid-March that two public schools in South Dakota and one parochial school would be closing. The cause of these school closures is lack of funds resulting from a decrease in Impact Aid. The schools did not indicate that they would like to become a part of the Bureau system. The notification was to alert the Bureau to the possibility of an increase in enrollment as a consequence of the closures.

IG Report on Pinon Dormitory

Question 24: The Inspector General (IG) prepared an audit report entitled, "Selected Financial Activities of the Pinon Community School Board", dated January 1995. Among other findings, the IG reported that the dormitory housed 141 residents during the count week for the 1992-1993 school year (FY 1992) and 188 residents during the count week for the 1993-1994 school year (FY 1993). The IG reported that "an average of 74 and 100 students, respectively, actually stayed in the dormitory during these time frames." Based on these findings, the IG believed that the School Board received \$230,559 and \$337,992, respectively, in funding for students who did not reside in the dormitory during the school year. The IG acknowledged, however, that the actions of the School Board did not violate the Code of Federal Regulations. Does the Bureau have any means of determining what the average number of students attending BIA-funded schools throughout the school year? If so, please provide the information for each school for the record. If not, why not?

Answer: The Bureau does not have the administrative resources or technology to collect daily attendance and average that information. The Bureau does have the ability to conduct two student counts but is not able to average daily attendance. The Bureau has requested funds in FY 1996 to implement an ADP package to collect student statistics.

Question 25: How does the Bureau ensure that Bureau-funded schools are accountable throughout the entire school year for the students who enroll in BIA-funded schools during count week?

Answer: The Bureau does not have the administrative resources or technology to assure that students enrolled in count week are still enrolled at the end of the school year. After the count is verified and certified, the Bureau assumes the students stay in school unless they drop out, transfer or graduate.

Question 26: How common is it for BIA-funded schools to have enrollment for count week that varies significantly from actual enrollment during the course of the school year? What data do you have to support your answer? If there is no data, how does the Bureau ensure that the data on the number and qualities of students enrolled in its school system is accurate for more than one week in September?

Answer: It is not uncommon for a school, Bureau or public, to lose or gain students over the school year. The end of year enrollment (retention rates), as a percent of the official ISEP count for FY 1992 was 93.1 percent (172 schools reporting). In 1993, the rate was 91.1 percent (154 schools reporting). Overall, during the 1991-1992 school year, 6.9 percent of the students counted during the count week left the school of original enrollment; during the 1992-1993 school year that percentage increased to 8.9. There is no data available on retention rates in nearby public schools enrolling Indian children. It is also not uncommon for children enrolled in a Bureau school to leave that school and enroll in another Bureau school, although the OIEP has not collected data on this aspect of school transfers.

Question 27: Are there any other school systems that provide funding for the entire school year based on the attendance during only one week during the year and require a student to attend only one day to be counted for funding?

Answer: Yes, there are other school systems that provide school funding on the attendance recorded in one week. In Maryland, the official count of children is on September 30; in North Dakota the official count is the first day of school; in South Dakota the official count is the third Friday of September and for the Department of Defense the official count is on September 30. New Mexico provides funds on total enrollment on the 45th day, and students must attend at least one day during the first 45 days of school in order for the school to receive funding for that student. Bureau funded schools are often impacted if students are expelled from public schools after the count, i. e., day 46, and these students enter the Bureau schools after the count week.

Question 28: The BIA often uses the Department of Defense (DOD) schools as a model of a geographically diverse school system that has similarities to the BIA system. Do DOD schools use count week or some other method for determining the number of students attending their schools? If DOD uses some other method, would this method be applicable to BIA schools? If not, why not?

Answer: The DOD official count is taken on September 30 for final adjustments to the funds. The initial distribution of funds occurs in July and is based on an advanced projection. The ISEP formula allows for the same distribution. Eighty-five percent of the funds are distributed on July 1, based on the prior year's count. The adjustment of the remaining 15 percent is made after the count in September.

Question 29: Where the actual average daily enrollment for a school is significantly lower than the enrollment reported during count week, what is the effect on the actual cost per student for the school?

Answer: The cost per student remains constant since there are no funds for later adjustments and the system does not provide for withdrawal of funds due to decreases or increases in enrollment or attendance.

Question 30: For the school year 1992-1993, the Congress approved a reprogramming request that permitted additional funds to be reprogrammed from the Indian Child Welfare Act grants to the Indian School Equalization Program (ISEP) funds to prevent schools from closing early due to a shortage of funds that resulted from a significant rise in enrollment. To what extent did Pinon Dormitory receive any of the additional funds that were provided for school year 1992-1993? If so, what was the basis for providing the additional funding? Did the Bureau have access to any information that would have permitted the Bureau to determine the reason a particular school needed additional funds?

Answer: Pinon Dormitory received \$101,600 from the reprogrammed Indian Child Welfare Act grant funds. All Bureau schools had to apply for the funds based on a demonstrated need for accelerated expenditures for staff salaries, transportation, food and laundry. The Bureau operated schools requests' were verified by analyzing obligation rates and projecting requirements to complete the school year. Expenditure data was not available for the contract/grant schools. The Education Line Officers monitored the needs and made recommendations for the contract/grant schools. Contract and grant school organizations were particularly concerned that they would not receive a "fair share", regardless of need. They insisted that the ICWA funds be distributed by the ISEP formula. The Director, OIEP refused to honor their request. The Bureau questioned many of the schools' claims and often lowered the amount requested based on the analysis of obligations and expenditures.

Question 31: Among the school board expenses that the Inspector General found objectionable were costs for several trips by members of the school board which were funded by ISEP funds. It should be noted that this travel took place at a time when schools, including the Pinon Dormitory, were receiving funds from the Indian Child Welfare Act reprogramming to prevent them from closing early and laying off staff.

On the first trip, from March 29 to April 1, 1993, the Executive Director, the Business Manager, and two school board members travelled to Washington, DC to attend hearings on the Bureau's education appropriations hearings. The travelers stayed in three hotel rooms costing \$279 per night and incurred hotel charges totalling \$3,166 for the trip.

During April 14-18, 1993, the Executive Director, the Business Manager, all four school board members, and two other employees travelled to Honolulu, Hawaii, to attend the annual meeting of the Association of Community Tribal Schools. The Pinon Community School paid a total of \$7,648 for travel costs associated with this travel. Had the schools already received funding from the Indian Child Welfare Act reprogramming when this travel took place? Based on regulations currently in place for ISEP, are these allowable uses of ISEP funds? Did the Office of Indian Education programs at the agency, area, or central office level have access to any information which would have indicated that schools were sending representatives to the meeting in Hawaii? Did the Office of Indian Education Programs have any authority to prevent such travel from taking place? Does the Office of Indian Education Programs have any information as to how many schools were represented at the meeting in Hawaii? If so, how many of these schools received additional funding through the ICWA reprogramming?

Answer: Yes, the Indian Child Welfare Funds had already been distributed by the time the conference took place. The Association of Community Tribal Schools (ACTS) is an independent organization composed of contract and grant schools. The schools pay a modest fee to the organization. The Bureau does not sanction or subsidize this organization. Members of ACTS are school board members who have the authority (*Public Law 95-561 sec 1129d*) to take a percentage of funds from ISEP up to \$4,000. As such, the use of ISEP funds is authorized. The Bureau does not have access to information regarding the meetings or conferences sponsored by ACTS or any of the other associations except for the National Indian School Board Association (NISBA) and the Navajo Area School Board Association (NASBA) which are funded by a grant from ISEP funds. The OIEP issued a memorandum reminding OIEP personnel not to use BIA funds for travel to Hawaii.

Question 32: Does the Office of Indian Education Programs have the authority to establish guidelines for travel costs for contract and grant schools?

Answer: No, the OIEP does not currently have such authority. However, the concept of self-determination and local control involves the absence of strict guidelines and regulations and the OIEP believes that most school boards control their expenditures in an efficient manner.

Question 33: As a result of the findings at Pinon Dormitory, the Inspector General recommended that the Director of the Office of Indian Education Programs "continue to consult with tribes and members of the Congress to refine the process used to determine the amount of

funds distributed to contract schools." According to the report, "the Bureau said that it was not unaware of the shortcomings in the current methodology of funding distribution and that it had initiated actions to change the process." According to the Bureau's response, it had consulted with tribes on two separate occasions on proposed changes to the count week and on suggestions that more than one count week be used. The Bureau further stated that during six other consultations concerning the Indian School Equalization Program, changes to count week were discussed and language was proposed with the fiscal year 1995 budget request which would have based funding on prior year student counts. What specific shortcomings to the current methodology was the Bureau referring to in response to the IG's recommendation? What specific changes to the count week has the Bureau consulted with the Tribes about? How much pressure do you receive from schools to change the methodology?

Answer: One of the shortcomings to the current methodology is that schools recruit students at the beginning of the school year and that a few schools do not keep their enrollment. However, some schools maintain their enrollment and as a result, absenteeism and drop outs have decreased. (Some schools have an increase in enrollment.) Another shortcoming is the increase in gifted and talented students and bilingual students. Schools use these categories to increase their weights for more funding. The Bureau proposed to roll the two programs into ISEP and remove the weights and consulted with the tribes on this proposal. This would eliminate the use of the weights to increase funding and would truly allow the local school boards to determine and budget for their programs. The participants at the consultations adamantly opposed the proposal. The Bureau has also consulted on the option of adding a spring count week to the current fall count week. The participants nation-wide indicated they felt an additional count week would be expensive in both time and man hours and would unnecessarily disrupt class time.

Question 34: Please provide for the record a description of each of the consultations which took place on the issue of count week, including the specific issue or question discussed at the consultation and any subsequent discussions which took place, the comments of the tribal leaders who participated in the consultations, and the specific tribal leaders in attendance at each of the consultation sessions.

Answer: A Copy of the consultation book and subsequent synopsis of the transcript are provided on the following pages. The Bureau did not capture information regarding the title or position of tribal representatives attending. "Tribe" is the only category of organization captured in the database and includes tribal leaders, council members, tribal education department representatives and local officials, such as district or chapter officials.

TRIBAL CONSULTATION

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Tribal Consultation on Indian Education Topics

AGENCY: Bureau of Indian Affairs, Interior

ACTION: Notice of Tribal Consultation Meetings

SUMMARY: Notice is hereby given that the Bureau of Indian Affairs (BIA) will conduct consultation meetings to obtain oral and written comments concerning potential issues in Indian education programs. The potential issues which will be set forth in a tribal consultation booklet to be issued prior to the meetings are as follows:

1. Tribal Priority Allocation Category for Education Programs
2. Actions Being Proposed by Bureau of Indian Affairs to Implement P. L. 103-227 and P. L. 103-382:
 - A. Draft Goals 2000 Consolidated State Plan to meet requirements of P. L. 103-227.
 - B. Discussion Paper on Proposed MOA Between Secretaries of Interior and Education Per § 14205 of P. L. 103-382.
3. Open Discussion
4. On-Going ISEP Formula Study:

ISEP study mandated by P. L. 103-332, FY 95 Appropriations for the Department of Interior.
5. Implementing P. L. 100-297 Construction Grants exceeding \$100,000
6. Regulatory Revisions
 - A. Adult Education and Higher Education Grant Programs
 - B. Kindergarten Student Enrollment Age
 - C. Residential Opportunity to Learn Standards

DATES: March 31, and April 3, 5, 7, and 11, 1995 for all locations listed. Several of the dates and locations were scheduled to coincide with meetings of various Indian education organizations. All meetings will begin at 9:00 A.M. and continue until 3:00 P.M. (local time). Written comments concerning the consultation items must be received no later than May 1, 1995.

ADDRESSES:

<u>Location</u>	<u>Local Contact</u>	<u>Telephone</u>
MARCH 31, 1995		
1. COLORADO, Denver	Verna Houle	(503) 230-5682
APRIL 3, 1995		
1. MONTANA, Billings	Larry Parker	(406) 657-6375
2. ARIZONA, Phoenix	John Wahnee	(602) 738-2262
3. OKLAHOMA, Tulsa	Jim Baker	(405) 945-6051
APRIL 5, 1995		
1. SOUTH DAKOTA, Aberdeen	Bobby Thompson	(701) 854-3497
2. NEW MEXICO, Gallup	Lester Hudson	(505) 368-4427

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|---------------------------|----------------|----------------|
| 3. CALIFORNIA, Sacramento | Fayette Babby | (916) 979-2560 |
| 4. LOUISIANA, New Orleans | LaVonna Weller | (703) 235-3233 |

~~April 7, 1995~~

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|----------------------------|----------------|----------------|
| 1. MINNESOTA, St. Paul | Mary Hilfiker | (612) 373-1090 |
| 2. ALASKA, Anchorage | Robert Pringle | (907) 271-4115 |
| 3. NEW MEXICO, Albuquerque | Juanita Cata | (505) 753-1465 |

~~April 11, 1995~~

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|---------------------|-------------|----------------|
| 1. OREGON, Portland | Verna Houle | (503) 230-5682 |
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Written comments should be mailed, to be received, on or before May 1, 1995, to the Bureau of Indian Affairs, Office of Indian Education Programs, MS-3512-MIB, OIE-32, 1849 C. Street, NW,

Washington, D.C. 20240, Attn: Dr. John Tippeconnic; OR, may be hand delivered to Room 3512 at the same address. Telefax responses may be transmitted to (202) 219-0221.

FOR FURTHER INFORMATION CONTACT: Goodwin K. Cobb or Jim Martin at the above address or call (202) 219-1131 or 208-3550.

SUPPLEMENTARY INFORMATION:

The meetings are a follow-up to similar meetings conducted by the BIA since 1990. The purpose of the consultation, as required by 25 U.S.C. 2010(b), is to provide Indian tribes, school boards, parents, Indian organizations and other interested parties with an opportunity to comment on potential issues raised during previous consultation meetings or being considered by the BIA regarding Indian education programs. A consultation booklet is being distributed to Federally recognized Indian Tribes, Bureau Area and Agency Offices and Bureau-funded schools. The booklets will also be available from local contact persons and at each meeting.

 DATE

 ASSISTANT SECRETARY - INDIAN AFFAIRS

CONSULTATION ITEM # 4

CONSULTATION ITEM/TOPIC:	On-Going Study of the Indian School Equalization Program (ISEP) Formula.
POTENTIAL ISSUE OR CHANGE:	To examine the efficiency of the current ISEP Formula.
REASON FOR PROPOSING ISSUE OR CHANGE:	Congressional Mandate.
CURRENT OPTION(S) BEING CONSIDERED BY THE BUREAU:	To fulfill the Congressional Mandate as set out in the FY 1995 Appropriations Act.

BACKGROUND

The purpose of this consultation item is to update Indian country on the status of on-going studies of the Indian School Equalization Program (ISEP) formula. During FY 1995, the Bureau will conduct at least two major studies concerning the ISEP formula. Both studies were mandated through Federal Laws by the U.S. Congress. Congressional authority for the first ISEP study is contained in Section 315 of P. L. 103-227, Goals 2000: Educate America Act. The purpose and need for the study are explained below. The Bureau's FY 1995 appropriation act, P. L. 103-332, and the accompanying House-Senate Conference report requires the Secretary of the Interior to conduct the second ISEP study after consulting with Indian tribes and schools on ways to improve the basis for allocating ISEP funds.

GOALS 2000 ISEP STUDY/CONTRACT

Section 315 (c) of P. L. 103-227, as amended, states "the Secretary of the Interior shall, through a contract executed, after open solicitation, with an organization or institution having extensive experience in school finance, for an analysis of--

(A) the costs associated with meeting the academic, home-living and residential standards of the Bureau for each Bureau funded school and annual projections of such costs; and

(B) the feasibility and desirability of changing the method of financing for Bureau funded schools from the weighted student unit formula method in effect on the date of enactment of this Act to a school-based budget system or other alternative system of financial support."

The statute further requires the contractor to issue its final report of analyses to selected Congressional committees and the Secretary of the Interior. As of January, 1995, the Bureau has issued a Request For Proposals (RFP) for the subject contract and study. Funds to support this ISEP study will come from the Goals 2000 program funds being transferred to the Bureau from the US Department of Education.

FY 1995 APPROPRIATIONS ACT ISEP STUDY

The Bureau's FY 1995 appropriation act and accompanying House-Senate reports require the Secretary of the Interior to consult with Indian tribes and schools for appropriated for the ISEP. A report is to be submitted to the Congress no later than April 30, 1995. According to the House-Senate Conference report language, the final ISEP report is to include specific recommendations for changing the ISEP allocation method.

CONSULTATION DISCUSSION

Based on the above information, do you have any questions, viewpoints or comments on this ISEP study?

EXHIBIT 4 - BI**ISEP STUDY PLAN****FY 1995 ISEP STUDY PLAN**

The Department of the Interior's FY 1995 appropriations act requires the Bureau of Indian Affairs to conduct a review of the Indian School Equalization Program (ISEP) formula and the method by which funds are allocated to all Bureau funded schools. Congress has requested that "To the extent possible, a variety of schools should be represented, including day, boarding and dorm schools, as well as remote schools and those adjacent to public facilities... and (the study) should represent the widest possible spectrum of views on this issue, as well as balanced geographic representation."

This study will determine whether the ISEP fund distribution formula equitably distributes appropriated funds and the manner in which those funds are distributed. The study will not examine the issue of whether sufficient funds are appropriated for the ISEP.

Purpose

The current study is designed to provide answers to the following research questions:

1. To what extent does the current ISEP formula equitably and effectively allocate funds to all Bureau funded schools?
2. Should the current ISEP formula be eliminated and a new method be developed?
3. Should the current ISEP formula be retained with modification, and if so, what part(s) of the formula should be modified?

Methodology

OIEP will utilize and review all current information relevant to the ISEP formula, including completed studies/reports, in determining whether or not:

- o the formula adequately/equitably distributes ISEP funds;
- o the existing formula needs modification and how it should be modified; or
- o a new method (procedure/formula) for fund distribution needs to be developed.

Information Sources

Review for pertinent information from the following sources:

- o Previous tribal consultation items on ISEP - review all comments as well as all summary reports of previous consultations. Identify comments that identify relevant issues and problems with the current ISEP formula.
- o 1991 ISEP Working Committee Report on the ISEP.
- o FY 1992, 1993 and 1994 Annual Academic and Residential Standards Compliance Reports to the Congress.
- o FY 1994 Management Control Review of ISEP.
- o FY 1994 Study of ISEP mandated by Congress.
- o Principal's Questionnaire developed for study.

Summary of public law language that bears upon the ISEP formula and method of fund distribution from: PL 95-561, 100-297, 103-227, and 103-382.

Study Process

1. Write Introduction to study.
2. Review and summarize all reports and individual comments from previous tribal consultations conducted by OIEP.
3. Develop and mail out principal's questionnaire, then analyze and summarize results.
4. Develop preliminary recommendations for revision of the ISEP formula and distribution method, if warranted.
5. Schedule review of draft study results during the following national Indian education meetings: BIA National Conference on Goals 2000, San Diego, March 6-10, 1995 and NISBA Annual Conference, Denver, March 30 through April 1, 1995.
6. Collect comments from the national meetings and revise study results accordingly.
7. Include FY 1995 ISEP Study Plan and questionnaire in March 1995 Tribal Consultation Booklet for further consultation.
8. Revise as result of national education and tribal consultation meetings and write final report to the Congress.
9. Send draft final report to national Indian education organizations and individuals for final review prior to finalizing the report.
9. Route final report through BIA and Interior.
10. Send final report to the appropriations committee.
11. Include study results in October, 1995 tribal Consultation Booklet relative to any proposed changes in formula or manner in which funds are distributed

Report Format

I. Introduction

Explanation of the Study.

Evolution of the ISEP formula, including public law language relative to the formula and fund distribution contained in PL 95-561, 100-297, 103-227, and 103-382.

Description of current ISEP formula, Weighted Student Units and how formula is applied to schools. Representative day, boarding, peripheral school examples will be used to show how formula is applied to these types of schools.

Tables showing ISEP appropriations, number of enrolled students, WSUs, etc. over last 15 years.

II. Review of Recent ISEP Studies, Questionnaire, Tribal Consultations, and National Review

Summary of the review/analysis of:

- o previous tribal consultations on ISEP tallied by type of comments and source of comments;
- o 1991 ISEP Working Committee Report on the ISEP Formula;
- o FY 1992, 1993 and 1994 Annual Academic and Residential Standards Compliance Reports to the Congress;
- o FY 1994 Study of ISEP mandated by Congress;
- o FY 1994 Management Control Review of ISEP; and
- o Information from schools, based on principal's questionnaire, that identify problems with current ISEP formula along with proposed feasible solutions.
- o Results of the review and comments from national Indian education meetings.

This review will summarize all pertinent information derived from the above sources that relate to the equity/adequacy and/or inequity/inadequacy of the current ISEP formula along with documentation from these reports. Included in this section will be a summary of pertinent information derived from above sources relative to the manner in which ISEP funds are distributed along with proposed feasible solutions.

III. Specific Recommendations for Changing Allocation Method

This section will make recommendations, solutions, and alternatives based on study findings/results.

If changes in the formula are recommended, a determination of the impact such changes will be analyzed prior to implementation.

IV. Conclusions

Summary of study.

Appendix

EXHIBIT 4 - B - 2

QUESTIONNAIRE

Bureau of Indian Affairs
Office of Indian Education Programs

FY 1995 Study of ISEP Formula and Fund Distribution Method

School Name _____ Date _____

Type of School:

(Check One) Day _____ Boarding _____ Peripheral Dorm _____
(Check One) Bureau Operated _____ Grant _____ Contract _____

Principal Name _____

NOTE: You may write your responses to the second portion of questions 2 and 3 and part D of question 4 on a separate paper.

1. To what extent does the current ISEP formula equitably and effectively allocate funds to your school? (Does the current formula do what it is supposed to do regardless of amount of funds appropriated)?

Effective _____ Not Effective _____

2. If not effective, should the current ISEP formula be eliminated and a new fund distribution method be developed?

Yes _____ No _____

If yes, please briefly describe new method?

3. Should the current ISEP formula be modified, and if so, what portion of the formula should be modified?

Yes, Modify _____ No, do not Modify _____

Briefly explain how it should be modified (please be specific and use examples):

4. Currently the BIA distributes 85% of the ISEP funds to schools based on the September enrollment of the previous year, with final adjustments based on current year enrollment taken about mid-September. Some schools have indicated they cannot budget effectively and cannot make informed hiring decisions since they do not know their final allocation until after the school year has begun. Is this procedure a problem at your school? Yes _____ No _____

Which of the following is most acceptable for your school:

- A. the use of a Fall and Spring count? Yes _____ No _____
- B. the use of an average of a Fall and Spring count with an adjustment for schools with significant increases or decreases in enrollment? (Funds would be withheld from initial ISEP allocations for this purpose.) Yes _____ No _____
- C. Fund schools at 100% in July based on prior year student count with no adjustments? Yes _____ No _____
- D. Another solution? Yes _____ No _____

Please outline/describe your solution on another sheet (please be specific).

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Washington, D.C. 20240

IN REPLY REFER TO:

OIE-33

19 JAN 1995

Memorandum

TO: All Bureau Funded Schools

FROM: ACTING

Director, Office of Indian Education Programs

Subject: FY 1995 Review of ISEP Formula

Mike Melyk, Jr.

The Bureau's FY 1995 Appropriations Act required the Department of the Interior to conduct a review of the Indian School Equalization Program (ISEP) formula and the method by which funds are allocated to all Bureau funded schools. Congress requested that "To the extent possible, a variety of schools should be represented, including day, boarding and dorm schools, as well as remote schools and those adjacent to public facilities."

This study will determine whether the ISEP fund distribution formula equitably distributes appropriated funds and the manner in which these funds are distributed. The study will not examine the issue of whether sufficient funds are appropriated for the ISEP.

We are reviewing and summarizing comments made during all previous tribal consultation meetings that included an ISEP formula item. In addition, it is vitally important that we receive the current views of Bureau funded school principals as to whether the ISEP formula adequately and effectively distributes the funds to the students served by your school, irrespective of whether sufficient funds are appropriated.

Please give us your considered thoughts, concerns, and suggestions regarding the current ISEP fund distribution formula. The results of these comments will be used in the report required by the Congress.

Attachment A is a supplemental ISEP information of the current ISEP Fund Distribution Procedures and Explanation of the ISEP Weighting Formula for your information.

In order for your comments to be considered for the purposes of this study, you must answer the questions on the attached questionnaire and return them to the Branch of Research and Policy Analysis preferably by fax (202-219-0221) no later than February 10, 1995.

If you have any questions, please contact John Reimer or Dalton Henry at 202/208/3562.

Attachment

ATTACHMENT A
Supplemental ISEP Information

Current ISEP Fund Distribution Procedures

1. In April the OIEP calculates the next school year's per WSU planning amount and mails it to line officers based on 85% of the ISEP appropriations, after adjustments for school board training, declining enrollments, and contingencies, together with a projected WSU for the new year.
2. In June, the OIEP prepares fund distribution documents (FDDs) for the new school year based on the planning amount for Bureau operated schools and 50% of the amount received during the previous school year

for contract and grant schools. The FDDs are recorded in the FFS, placed on hold, and mailed/faxed to the line officers.

3. On July 1, the FDDs are activated in the FFS to allow obligations against the funds.
4. During the last full week in September, the OIEP conducts a student count in all Bureau funded schools.
5. By December 1, the OIEP issues the balance of funds due all schools based on the September student count and the available per WSU funding.

Explanation of the ISEP Weighting Formula (Weighted Student Units)

Calculating the Base Student Value - Under the ISEP Formula, different education activities and grade levels are assigned weights (using a base amount of 1.00) which reflect the relative costs associated with various programs. The number of students a school has participating in the various education activities is identified, totaled by activity, and multiplied by the weight factor for each activity to arrive at the number of weighted student units at each school. The dollar value of a WSU is determined by dividing the total number of all schools' WSUs into the total available funding. The total WSU figure includes all of the WSUs generated directly by instructional and residential programs, plus the Small School Adjustment, which takes into account the higher per student costs incurred in the operation of very small schools and dormitories with less than 50 students.

Current weights assigned to education activities and grade levels:

Basic Programs	Wt Factors	Dorm	Wt Factors
Kindergarten	1.00		
Grade 1 to 3	1.20		1.40
Grade 4 to 6	1.00		1.25
Grade 7 to 8	1.20		
Grade 9 to 12	1.30		1.25
SUPPLEMENTAL PROGRAMS			
Bilingual	.20		
Intense Resident. Guidance			.50
GIFTED AND TALENTED			
Kindergarten	1.00		
Grade 1 to 3	.80		
Grade 4 to 6	1.00		
Grade 7 to 8	.80		
Grade 9 to 12	.70		
EXCEPTIONAL CHILD			
Full time High Service level			
Visually Impaired	3.00		
Hearing Impaired	3.00		
Mentally Retarded	1.00		
SEV/PROF. Retarded	3.00		
SEV EMOT. Disturbed	3.00		
SEV MULTI-Disabled	3.00		
Spec. Learning Disable	1.00		
Autistic	3.00		
Traumatic Brain Injury	3.00		
Residential Impaired			.50
Part time Moderate Service Level			
Emotionally Disturbed	.50		
Hearing Impaired	.50		
Mentally Retarded	.50		
MULTI-Disabled	.50		
Orthopedically Impaired	.25		
Other Health Impaired	.25		
Spec. Learning Disable	.50		

Speech Impaired	.25	
Visually Impaired	.50	
Autistic	1.00	
Traumatic Brain Injury	1.00	
Residential Impaired		.25

Small School Adjustments
((100 - X)/200 * X)) or a Flat Rate of 12.50 for less than 51 Students

SUMMARY OF PREVIOUS CONSULTATION ITEMS

CONSULTATION ITEM	DATE	ACTION TAKEN	NEXT STEP	STATUS
1991				
1. Adult Ed. Regs - Proposed Rule Br. of Post Secondary	Jan 91	Proposed regulations are in the Department of Interior Approval Process.	Publish proposed rule that reflects Consultation comments.	Pending
2. Higher Ed. Regs- Proposed Rule Br. of Post Secondary	Jan 91	Proposed regulations have received Department of Interior Approval.	Publish final rule April 18, 1994	Complete
3. Early Childhood Program - Proposed Rule Br. of Elementary and Secondary Ed.	Jan 91	Proposed regulations are under review in the Office of the Solicitor.	Publish proposed rule that reflects Consultation comments.	Pending
4. Academic Standards - Proposed change in Testing Procedures Br. of Monitoring and Evaluation	Jan 91	Proposed regulations are in the Department of Interior Approval Process.	Publish proposed rule that reflects Consultation comments.	Pending
5. Program Eligibility Br. of Elementary and Secondary Education	Jan 91	Proposed regulations are in the Department of Interior Approval Process.	Definition of Indian in above regulations are being changed to reflect Consultation comments.	Pending
8. Chapter I - Proposed Formula Br. of Supplementary Services	Jan 91	Implemented new formula in SY 1991 - 1992	Implement new formula.	Complete
1. ISEP Changes: Grades 7/8; Small School Adjustment; IRG & Bilingual clarification; Gifted/Talented, etc. Br. of Administration	July 91	Adjustments were made according to Congressional Mandate for grades 7/8; G/T, small sch. adjustments; IRG and Bilingual -- Clarification in progress.	Publish proposed rule change reflecting Consultation comments.	Complete
2. Academic standards to propose changes to waiver dormitory standards and to add immunizations Br. of Monitoring and Evaluation	July 91	Proposed rule is being routed through system for the Assistant Secretary - Indian Affairs signature.	Publish proposed rule change reflecting Consultation comments.	Pending
3. Long Range Plan Br. of Planning	July 91	Resubmitted for Consultation in July, 1992.	Revised and submitted for additional consultation.	Pending
4. JOM - Student Eligibility Br. of Elementary and Secondary Ed.	July 91	Proposed regulations are in the Department of Interior Approval Process.	Proposed rule change reflecting Consultation comments.	Pending

1992

Academic Standards to strengthen language/culture; alternative High School Programs; Testing. of Monitoring and Evaluation	Jan 92	Proposed rule is being routed through system for the Assistant Secretary - Indian Affairs signature.	Publish proposed rule change that reflects Consultation comments.	Pending
JOM - Eligibility of Contract and Grant Schools of Elementary and Secondary Ed.	Jan 92	Judicial determination was made that approximately 38 previously private schools were included in the '93 JOM count.	Consensus that contract and grant schools be included only if appropriations are increased.	Complete
ISEP - (A) Student transportation formula and (B) Exceptional Education student definition changes of Administration of Exceptional Education	Jan 92	Proposed rule is being routed through system for the Assistant Secretary - Indian Affairs signature.	(A) Transportation report sent to Congress on 11/24/92. Proposed rule change to ISEP regs needed. (B) Proposed changes brought about by P.L. 102-119, again consulted on in October, 1993.	Pending
ISEP Formula - A 1991 study of the effectiveness of the ISEP formula in meeting academic/residential requirements v. of Planning, Oversight and Evaluation	Jan 92	Results of study presented to AI-IA in August, 1991 for implementation in FY94 budget request. Subsequent decisions were made to conduct additional study. Additional Consultation conducted in July and October, 1993.	None.	Complete
Long Range Plan and Education Goals	Jan 92	Indian America 2000 Goals finalized in 1992. When the present administration's Goals 2000 Educate America Act is signed the Indian American 2000 goals and long range plan will be amended.	Indian America 2000 plan has been modified to incorporate consultation comments and suggestions.	This is a continuing item.
of Planning Alternative methods of Distribution of Adult and Higher Ed. Funds of Post Secondary Education	Jan 92	Concept not implemented due to introduction of Tribal Budget System.	OIEP will not proceed with this proposal.	Complete
FY 1995 Education Budget - Tribal Priorities of Planning	July 92	Consultation results presented to Director, OIEP for use in budget formulation.	BIA proposes FY 1995 Budget.	Complete
Student Tuition (Haskell/SIPI) Division of Administration	July 92	Not Applicable.	OIEP will not proceed with this proposal.	Complete

3. ISEP - Bilingual Education, IRG and Student Count Division of Administration	July 92	Proposed rule change not yet submitted for clearance. The latest ISEP Study may affect final disposition of this item.	Consultation comments will be considered for possible revision of 25 CFR, Part 39 by a special committee.	Pending
4. Advocacy of Public School Students Division of Education Programs	July 92	Proceed with improving external relationships and developing partnerships with advocacy groups.	OIEP will strengthen relationships with state Depts. of Education, US Dept. of Ed., etc.... which are a part of the Policy Statement set forth in 25 CFR Part 32.	Continuing
5. AVT - Discussion to move AVT from OIP to OIEP Division of Education Programs	July 92	Not Applicable.	OIEP will not proceed with this proposal.	Complete
6. Standards - Philosophy and Requirements Br. of Monitoring and Evaluation	July 92	Proposed rule change is in clearance process.	25 CFR will be revised.	Pending
1993				
1. Amendments to P.L. 100-297 Br. of Research and Policy Analysis	Jan 93	P.L. 103-325 authorized Grant Authority to tribes for Higher Ed. programs. Grant Authority for JOM and Adult Ed. to tribes is being reviewed.	To extend Grant Authority for JOM, Higher Ed., and Adult Education to tribes.	Pending
2. Space Guidelines Office of Construction Management	Jan 93	Revised draft Space Guidelines to be distributed for additional comment in December, 1993.	Review of consultation results and issue revised draft space guidelines.	Complete
3. Full Inclusion of Students with Disabilities Br. of Exceptional Education	Jan 93	Policy statement being drafted.	Policy statement to be issued from OIEP.	Pending
4. Americans with Disabilities Act Br. of Exceptional Education	Jan 93	Not Applicable.	No further action will be taken on this proposal.	Complete
5. Reauthorization of Elementary and Secondary Education Act Programs Division of Education Programs	Jan 93	The Department of Education submitted its formal reauthorization proposal to the Congress in September, 1993.	Based on comments received from the tribes during the consultation meetings, the AS/IA requested by letter dated 4/9/93 to the Dept of Education that appropriations procedures remain the same for BIA programs.	Complete

School Boundaries	Jan 93	Consideration is still being given to the study; no decision has been reached.	Based on the comments received during consultation meetings, the Bureau is considering a study of the attendance boundary problem.	Pending
ORBS "At Risk" Student-ISEP Weight	Jan 93	Current ISEP Study is being conducted during the 1993-94 SY.	The Bureau has convened a task force to study ISEP. Will include "At Risk" facets of ORBS.	Pending
Programs available for American Indian and Alaska Native students	July 93	A data base of proposed comments/improvements is available for OIEP use.	To use comments made by Indian Country in planning future initiatives.	Complete
Tribal Consultation Dates of Planning, Oversight & Evaluation	July 93	In 1994 Tribal Consultation meetings are being held during March and October.	To conduct Tribal Consultation meetings in 1994 during March and October.	Complete
Inclusion of ISEP & TCCCs funds in Self-Governance Compacts	July 93	Director, OIEP has recommended that ISEP/TCCC funds not be included in Self-Governance Compacts.	Recommendation made to the AS-IA.	Complete
Office of Indian Education Programs (OIEP)	July 93	The study will be conducted during the 1993-94 SY.	Study of the ISEP Formula delayed until ordered by Congress.	Complete
ISEP Formula	July 93	The study is being conducted during the 1993-94 SY.	Study cancelled per direction of Congress.	Complete
Division of Administration	Oct 93	The study is being conducted during the 1993-94 SY.	As a part of the ISEP study, cancelled per direction of Congress.	Complete
ISEP Study	Oct 93	The study is being conducted during the 1993-94 SY.	Consultation results have been given to all members of the Alaska Task Force.	Complete
School Accountability	Oct 93	The National consultation results have been provided to the Alaska Task Force.	To amend the current P.L. 100-297 grant process to include facility funds.	Pending
Alaska Native Education of Research & Policy Analysis	Oct 93	Written procedures and grant documents are being revised.	To issue a proposed rule in the Federal Register.	Pending
PL 101-301 Grants	Oct 93	Consultation comments are being incorporated into the proposed rule.	The Report was submitted by the Office of Construction Management in August of 1994.	Complete
Office of Construction Management	Oct 93	A Report on Alternative Funding for Construction of Indian Schools was prepared for submission to Congress on July 1, 1994.		
Special Education 25 CFR Part 45 of Exceptional Education	Oct 93			
Alternative Funding for School Construction	Oct 93			
Office of Construction Management	Oct 93			

		1994		
1. Safety and Health Inspection Program Bureau Safety Office	Mar 94	Proposed Regulations were withdrawn by the Division of Safety Management. Director, OIEP issued temporary procedures to be followed by OIEP Line Officers.	The Bureaus' Division of Safety Management will not issue the proposed rule.	Complete
2. Exceptional Education State Plan Br. of Exceptional Education	Mar 94	Modifications were made based on consultation comments and the Plan was forwarded to the Department of Education for approval.	Department of Education Approved the State Plan.	Complete
3. Intensive Residential Guidance Br. of Administration	Mar 94	Consultation comments received are being considered for possible regulation revision.	Regulation revision is pending final decision.	Pending
4. Higher Ed. Director's Assn Br. of Post-Secondary Education	Mar 94	Based on comments received, no further action will be taken by OIEP.	The OIEP encourages tribal contractors to organize and operate any such association.	Complete
5. JOM Director's Assn Br. of Elementary and Secondary Ed.	Mar 94	Based on comments received, no further action will be taken by OIEP.	The OIEP encourages tribal contractors to organize and operate any such association.	Complete
6. Portable Classroom Program Office of Construction Management OIEP	Mar 94	Based on comments received, the Portable Classroom Program will be continued.	Program modification will be initiated based on consultation comments received.	On-going
7. Indian Education Work Groups Director, OIEP DOI Office of Policy Analysis	Mar 94	Consultation comments were reviewed and incorporated into the work papers.	The Department and the Bureau used work papers to prepare testimony before Congress. Goals 2000 Educate America Act became law on March 31, 1994. The House and Senate bills for reauthorization of ESEA have been passed; conference committees have been designated.	Complete

Budget Justification - ISEP	Mar 94	Consultation comments were reviewed. Questions from House and Senate Appropriations Committees on FY 1995 budget were answered based on the results of consultation meetings.	House report language on FY 1995 budget disapproved use of previous year's ISEP student count to distribute FY 1995 ISEP funds. Senate report language allows the Bureau to use previous year's count to distribute FY 1995 ISEP funds but does not require it. A budget conference committee should address this difference.	Complete
<u>Administration</u> Indian School Equalization Program (ISEP) Formula: Student Count and Fund Distribution Process	Oct 94	Consultation comments were reviewed and are being utilized in an on-going analysis of ISEP.	Congressional language has mandated additional study of the ISEP distribution methodology and that study is currently in progress.	In Progress
<u>Administration</u> The Johnson O'Malley (JOM) Program - Calculation and Distribution of funding levels. Elementary and Secondary Education Administration	Oct 94	The Bureau has reviewed the comments received regarding the Johnson O'Malley Program. The information gained has been primarily against the proposed actions recommended by Congress; this will be shared with congressional staff.	The Bureau will await any future action by the Congress regarding the JOM program.	Pending
Memorandum of Agreement (MOA) between the Department of Education and the Department of Interior	Oct 94	The input from tribal consultation has been incorporated in the draft MOA.	The Bureau is waiting for final action on the MOA by the Department of Education.	Pending
<u>Elementary and Secondary Education</u> Part 46 - Bureau of Indian Affairs Manual (BIAM) - Facilities Management - Update of Manual Bureau of Construction Management Facilities Management Construction	Oct 94	Comments from the Consultation meetings have been reviewed and are being incorporated into a second draft of the BIAM	Complete the final Draft of 46 BIAM and conduct final consultation prior to release.	Pending

Question 35: Why doesn't the Bureau use average daily attendance as a basis for distributing funding as most school systems throughout the country do?

Answer: First of all, the Bureau and schools lack the capability to capture these data. Questions and comments are raised periodically about funding schools on the basis of average daily attendance (ADA) instead of average daily membership (ADM). Over the past few decades, states have tended to move away from ADA to ADM for several reasons. The additional paperwork required to fund on a basis of ADA is considered to be excessive when viewed in terms of the potential benefit. In addition, the end-of-year count, and the resulting WSU dollar amount, would not be available in sufficient time for schools to plan their budgets for the coming school year. Another issue related to the use of ADA rather than ADM is that schools must provide seats and instructional materials on the basis of ADM rather than ADA for those days when all students are present.

Question 36: One of the arguments against using average daily attendance is the unpredictable fluctuation in attendance due to weather conditions and problems related to isolated rural schools. Do you have any data that would indicate the extent of the costs incurred by schools as a result of higher attendance at dormitory schools as a result of these conditions? If not, why not, especially if the costs are as significant as is alluded to by the Pinon Dormitory and with as many residential students as there are in the BIA system?

Answer: The Bureau does not have the information readily available to determine whether the costs in boarding schools rise during periods of inclement weather, especially on remote reservations. The school statistics packages should assist in capturing these data.

Question 37: If average daily membership were used as a basis for distributing funds and a school experienced a shortfall as a result of unusual weather or other conditions, are there any regulations which would prohibit additional funding being provided to the school from the Director's Contingency Fund?

Answer: There are no regulations which prohibit the use of the Director's Contingency Fund to assist schools that experience difficulty financially as a result of circumstances beyond their control, such as fire, flood, inclement weather or hurricane. Indeed, the Contingency Fund has been used for all these in the past.

Question 38: After the President's FY 1995 budget was submitted to Congress, the Bureau conducted its usual spring consultations with the tribes on its education programs. Among other items, the Bureau consulted on the proposal in the budget request to distribute ISEP formula funds on the basis of two count weeks, instead of one. The second count week was proposed to be held in May. How far in advance are the tribes supposed to receive materials for your consultations? When did the tribes receive their materials for the spring consultation last year? How many materials were the tribes sent for review prior to the spring consultation?

Answer: Consultation booklets and related material are mailed to tribes, areas, agencies and schools in order to be received at least 30 days prior to the consultation hearings. Because of input from the consultation participants, the Bureau is now increasing that period from 30 to 45 days.

Question 39: What was the basis for the objections to the budget proposal expressed by the tribes? To what extent were tribes opposed to the use of the second count week and to what extent were the tribes objecting to the amount of materials and the process in which the consultation was conducted? If holding the second count week in May were objectionable to the tribes, were any other alternatives discussed? If so, what were they and why weren't they pursued? What would prevent the abuses of the current count week from occurring if a second count week were held?

Answer: Some tribes object to the second count week because of the extra cost and administrative burden. While it is true that during consultation some educators opposed

distributing ISEP funds based on prior year enrollment, recent surveys indicate that most school administrators believe that distributing funds based on current year enrollment causes management problems.

Many tribes were objecting to the fact that they did not receive their materials in time for a thorough review before consultation. The Bureau's policy has been revised to send consultation material at least 45 days before consultation.

Question 40: According to a recently published report entitled, "Characteristics of American Indian and Alaska Native Education", published by the National Center for Educational Statistics, the absenteeism rate at Bureau-funded schools averages 9 percent on any given day, while the absenteeism rate at public schools with an Indian population of up to 25 percent, or public schools with an Indian population of greater than 25 percent averages only 7 percent. What monetary incentives do Bureau schools have to retain their students throughout the school year? What non-monetary incentives do they have?

Answer: The report used data collected in FY 1990-1991, from one hundred Bureau funded schools (56 percent) or a little over a half of the schools were included in this study. Absenteeism rates were: BIA funded schools, 8.7 percent; Schools with 25 percent Indian students, 7.1 percent; and Schools with less than 25 percent or more Indian students, 6.5 percent. The difference between Bureau schools and the public schools is 1.6 percent and 2.2 percent respectively. Since the data in the sample of public schools and the Bureau schools was weighted, there is a margin of error which can be calculated for these percentages. It is highly probable that the margin of error is large enough to make the differences insignificant. Although this report indicates that the absenteeism in Bureau schools is higher, it offers no explanation of the differences other than to mention that principals in the BIA schools reported poverty and parental substance abuse to a greater extent than do principals of the public schools. Both these factors have a direct effect on student attendance. For absenteeism, programs that reach into the community and to parents are best suited to dealing with the problems of poverty and substance abuse as related to student absenteeism. There are no monetary incentives to prevent drop-outs or transfers.

Question 41: How are BIA-funded schools currently held accountable for retaining students throughout the school year?

Answer: The Bureau schools are expected to deliver the highest quality education programs and also to ensure all students are receiving maximum encouragement to remain in school.

Question 42: How does this higher absentee rate affect the desire of schools to modify the current count week where a student only has to attend a Bureau school for one day during one week of the school year?

Answer: The Bureau has no information on the effect on the absenteeism rate regarding a second count week.

Question 43: Is this higher absenteeism rate a factor in the lower overall achievement of Indian students at Bureau-funded schools compared with Indian students at public schools with large Indian populations?

Answer: Prior to the data collected by a 1994 report, the Bureau's absenteeism rate was approximately 10 percent. The schools that are enrolled in the Effective Schools model have a higher attendance rate (94 percent) than other Bureau schools. The educational testing companies re-normed the achievement tests in 1993 and it will be at least three years before the Bureau can fairly compare test data to determine achievement. However, the schools that use the Effective Schools model have greater test score improvements.

Question 44: According to the IG report, the Bureau noted that there was "no consensus" in the area of replacing the current count week among the tribes and the school boards and that

both the U.S. House of Representatives and the U.S. Senate took "substantially different positions" on the proposed budget language. Is the Office of Indian Education Programs working to craft an agreement between these groups on an alternative to the current count week as a basis for distributing funds?

Answer: The 1995 Interior Appropriations Conference Report directed the BIA to examine the current methodology of distributing funds. The OIEP has surveyed the schools and held tribal consultation on this issue and is analyzing the results.

Question 45: What incentives are there for tribes or school boards to replace the current count week? What incentives are there for national Indian education associations to have the current count week replaced?

Answer: There are no incentives to tribes, school boards, or Indian organizations to have the current count week replaced. However, schools have indicated they believe the current method of distributing funds based on current year enrollment is problematic because they don't know their budget until well into the school year.

Question 46: The IG also examined the expenses of the Pinon Dormitory school board and reported that the school board inappropriately used Indian School Equalization Program funds to pay for school board activities. According to information in the Appendix of the report, the Department's Regional Solicitor in Albuquerque concluded that Pinon Community School, as a contract school, was not authorized to use ISEP funds to fund school board activities but instead should use administrative cost grant funds. What specific activities are allowed for use of ISEP funding and what activities are allowed for administrative cost grants? Are permissible uses of ISEP funds different for contract and grants schools than for BIA-operated schools?

Answer: The OIEP has held the position that any school, including a contract or grant school, is limited by 25 USC 2008 (c)(2)(c) specified expenditures. However, contract and grant schools may use administrative cost grant funds for school board expenses and travel without limitation.

Model Schools and School Statistics

Question 47: The FY 1996 budget request includes an increase of \$700,000 and 17 FTEs to initiate a comprehensive school statistics ADP package. The requested funding will provide start up costs for a nation-wide system similar to that used by the Department of Defense schools. According to the budget justifications (page 105), "the package is necessary in order for the Bureau to ensure future enrollment projections are sound, as budget requests are based on expected student count." How accurate have your projections been for the school years 1992-1993, 1993-1994, and 1994-1995? What is the current basis for making enrollment projections? What was the basis for the projection for FY 1996? Should the Committee consider this projection to be "sound"? How will the comprehensive school statistics ADP package enable you to make more accurate projections?

Answer: It is difficult to make accurate projections, mainly due to the lack of population data in Indian country. The ADP package will not completely solve this problem; however, it will provide useful information for managing the program. The ADP package will allow schools to make current enrollment/attendance data available to the Bureau via computer technology. The OIEP will be able to access data from each school and agency on an as needed basis and view yearly enrollment fluctuations. Instead of having diskettes sent back and forth between the OIEP and schools, the OIEP will be able to access the data for each school from the Central Office.

Question 48: Currently, what information does the Office of Indian Education Programs receive regarding actual enrollment at BIA-funded schools?

Answer: The OIEP receives the actual enrollment after the student count has been completed and verified. This takes about six weeks to complete. Schools still have the ability to appeal

any decisions the Director makes regarding the students accepted on the rosters. This is the only information the OIEP receives unless additional information is requested during the year.

Question 49: Will the data collected by the comprehensive school statistics ADP package include enrollment data from contract and grant schools?

Answer: Yes, the comprehensive school statistics ADP package will include enrollment data from contract and grant schools. In order to receive their ISEP funding, all schools will have to submit their enrollment and attendance data through the ADP package.

Question 50: If funding were provided, could the statistical package be acquired and implemented within FY 1996?

Answer: The Bureau plans to conduct a systems needs evaluation first to ensure the most effective system is implemented. The systems needs evaluation could begin as early as October, 1995, provided funds are available. Within the budget request (\$700,000) approximately \$300,000 will be used for the systems needs evaluation. Given the distance of some of the schools and procurement requirements, it is unlikely that the proposed package could be both acquired and implemented in all schools within FY 1996.

Question 51: The FY 1996 budget request includes \$300,000 for "model schools". According to the justifications (page 105), the "model schools" are needed "in order to elevate Bureau schools to a level which is equivalent to all schools nation-wide. Model Schools will establish a minimum standard which all other Bureau schools can follow so that they can become and remain academically outstanding." The "model schools" are expected to "promote creativity, autonomy and accountability." What will the \$300,000 fund in FY 1996? What additional funding will be required past FY 1996? What will be the basis for selecting "model schools"? How many schools are expected to become "model schools"? What additional funding will be provided to "model schools" and what will be the source of the funding? Will ISEP funds be used or will funding come from a separate source? How do the goals of the "model schools" program differ from the goals of the "effective schools" program?

Answer: The \$300,000 will provide funds to six schools to allow flexibility in hiring additional teachers, obtaining textbooks and designing curriculum in order to restructure their programs with greater flexibility than other schools as long as they continue to follow accepted professional practices and adhere to high standards. Waivers would be sought from the states in which the schools are located as well as from the Department of Education to allow schools this flexibility to create centers of high learning and instruction. No additional funds would be sought after 1996.

The selection process will be by application. The OIEP has developed an application that will be disseminated to all schools. All schools are invited to submit an application. A panel of educators will review the applications and a recommendation will be made to the Director for funding.

The OIEP expects to provide funds to six schools for this program. The schools will receive the same funding as all schools receive. No additional funds will be made available. They will be expected to locate other sources of funding from foundations, or other federal agencies.

The model schools differ from the Effective Schools Program in that effective schools operate within the framework of the state, federal, and regional accrediting agencies guidelines. The model schools program would make it possible for schools to hire teachers without adherence to teacher certification requirements, structure school days and years to meet the needs of the students, develop curricula outside of the state required formats. They would be learning laboratories with a strong evaluation component attached to the outcome and significance of the program.

Question 52: What specific criteria will be used to determine the success of schools in promoting "creativity, autonomy and accountability"? How are these terms defined as they

relate to the "model schools" program? Question: What criteria will be used to determine when Bureau schools have been elevated "to a level which is equivalent to all schools nation-wide"?

Answer: The schools will design an evaluation component to measure their progress toward meeting stated goals and objectives. The application requires the use of a minimum of fourteen evaluation criteria. The evaluation component will measure the progress made on those fourteen criteria. The criteria include: length of school year; assessment measures; classroom organization; description of the proposed education program including the curriculum; instructional approaches; description of the method of financial accounting; and description of specific student outcomes. Bureau schools will be considered elevated to a level equivalent to all schools nationwide where students are learning the intended curriculum at a level on standard with all students nationally. The comparisons will be made to those criteria established by states and national professional organizations. The focus will be on results instead of on compliance.

Education Program Management

Question 53: For FY 1996, \$4,104,000 was requested for education program management, which represents a decrease of \$167,000 from the current level. The program currently supports 45 FTE's which is proposed to decrease to 42 FTE's in FY 1996, which was the operating level of FTE's prior to FY 1995. According to the budget justifications, the Bureau plans to reduce the evaluation and monitoring function to 40 of the 60 schools on the three year audit cycle. In addition, the Bureau plans to consolidate one Education field office. As part of the streamlining of central office, what further reductions to the central office are planned for education? How does the increase in the number of contract and grant schools impact the workload of the Office of Indian Education programs? What was the basis for monitoring and evaluating 60 schools per year? Are changes to regulations or statutes required to reduce this to 40 schools per year? What information is provided to the Bureau as a result of the monitoring and evaluations of the schools? Is the information the same for contract and grant schools as for Bureau-operated schools? What is the basis for reducing the number of schools to be monitored from 40 to 60? Was reduced funding the primary reason? If so, why were these activities a lower priority than other activities of the Office of Indian Education Programs?

Answer: A total of five FTE were reduced including four FTE resulting from not filling vacancies and retirements, and one resulting from the movement of the Johnson O'Malley Program to Tribal Priority Allocations. An additional three reductions are projected in FY 1996 from not filling vacancies, and retirements. Historically, the OIEP has been the part of the Bureau that has streamlined on a regular basis. In FY 1980, the OIEP had approximately 200 FTE and in FY 1995, there are 45 which will be reduced further in FY 1996.

The increase in contract and grant schools does not mean less work. The increase impacts only the Administrative Branch which creates the documents for distribution of funds and tracks expenditures of all program funding. Grant and contract schools still participate in student count week, which the Administrative Officer oversees. They are also audited for ISEP as well as other programs. Contract and Grant schools receive "flow through" funds which the Administrative Officer oversees. In addition, their input is sought during budget development and execution. The increase in contract and grant schools affects the Education Line Offices more than the Central Office which, with the exception of administration, deals with special programs such as Chapter I, Drug Free Schools, Eisenhower Math and Science.

The basis for attempting to monitor and evaluate the 60 schools was to complete a three year cycle. Schools have long complained that no one from the Central Office visited their programs and questioned the support for the schools from that level. It was a lofty undertaking that unfortunately the OIEP could not complete. There are no regulations or statutes that were required to reduce the number to 40 schools. The information provided to the Bureau is mostly programmatic in nature, but includes some administrative information. Items such as school budget, expenditures for priorities, ratios of administrative staff to student population, and better utilization of staff are included in the report. Programmatically, the utilization of modern

technology to meet student needs and the updating of curriculum materials is a focus of the reports. Community involvement, school board involvement and the need for training in these areas is also reported as well as ways in which the schools may use their funds to meet the standards. The information is the same for all schools, including contract and grant schools.

The basis of reducing the number to 40 was reduced funding and a re-direction of funds to other important education needs. The activities are not a lower priority, but the Education Program Management funds are stretched to their limits to meet expenses that are not always included in the budget submission such as union partnership activities, union negotiations, and in the case of the past year, buy-outs of personnel.

Task Force on ISEP Funding Distribution

Question 54: In the Statement of the Managers accompanying the FY 1995 Interior Appropriations Conference Report, the BIA was directed to examine the current methodology for distributing funds to determine if there was a more equitable way to distribute funds. The Bureau was to establish a task force and report to the Committees by April 30, 1995. To date the Committees have not received that report. According to the justifications, the report is now expected to be submitted by May 30, 1995. Does the Bureau expect to be able to submit the report in about three weeks? What are the results of the report expected to show?

Answer: The OIEP has mailed the draft report to the Indian organizations and others who commented for review. The OIEP has asked for the comments to be returned by June 16. The Bureau expects to submit the report by the end of July.

Question 55: Please describe the process that was used to examine possible methods for improving distribution of ISEP funds. Please provide for the record a copy of the survey that was sent to all school principals and the results of that survey.

Answer: The OIEP reviewed all tribal consultations with items relating to the ISEP distribution and student count. The OIEP sent out two questionnaires to Bureau funded schools. The Executive Summary of the ISEP survey will be provided to the Committee as soon as it is completed.

Question 56: What were the results of the consultations held on this subject, including the consultation done as part of the regular spring OIEP consultation, as well as the comments received at the National Goals 2000 Conference and the National Indian School Board Association Conference (NISBA) and comments from national Native American associations, such as the National Indian Education Association?

Answer: The OIEP is still summarizing the comments. The summary of comments will be provided to the Committees when completed.

Question 57: Did the comments of individual schools receive the same consideration as the comments received from the Goals 2000 conference and the NISBA conference? Was there any consensus from the various groups?

Answer: All comments will be given equal consideration once they are summarized and an executive summary is completed.

Question 58: What is the role of the Office of Indian Education Programs in forming policy on issues such as the basis for distributing ISEP formula funds when there is no general consensus?

Answer: The OIEP formulates, publishes and implements policy decisions based on administration policy, sound management of the entire school system and tribal consultation.

Tribal Departments of Education

Question 59: The FY 1996 budget request includes \$500,000 to provide initial funding to tribes to plan for new or revised Tribal Departments of Education. According to the budget justifications (page 106), the purpose of these organizations is to encourage more tribal and regional control over schools within their tribal jurisdiction so that tribes can implement cost saving initiatives and use savings to enhance academics. How will these tribal departments of education encourage more tribal and regional control over schools within their tribal jurisdiction? Will these departments of education enable the tribes to gain any control over the public schools within the tribal jurisdictions? What prevents tribes from having this control presently? Could tribes gain greater tribal and regional control over schools within their tribal jurisdiction and implement cost saving initiatives if school boards were expanded to have jurisdiction over multiple schools instead of the current practice of having a separate school board for each school?

Answer: The goal of establishing Tribal Departments of Education is to encourage more tribal control within the tribe's jurisdiction. How this will be accomplished will probably vary by Tribe. The Bureau will give priority funding consideration to those Tribes who have a plan and have the capability for increasing Tribal control over the schools and improving management and efficiencies of the education programs on the reservations.

The most effective Departments of Education are those which will have control over the public schools within their tribal jurisdiction as this has the potential for making the most efficient use of both state and federal resources. There are currently some reservations where a BIA school is operating in near proximity to a public school, yet the schools cannot coordinate transportation or the education of special needs students, etc. The Bureau believes that coordinating public and BIA schools on reservations would result in improved education systems and opportunities for Indian children.

Currently, the main deterrent to this control is the fact that historically BIA schools have been totally separate from public schools. There have been very few precedents for establishing relationships between the BIA and the states to the extent that tribal departments of education could be created. Expanding the authority of school boards over multiple schools could be one way to ensure that Tribes are able to make school systems more efficient.

Question 60: What specific activities will the \$500,000 requested for FY 1996 fund? How much additional funding will be requested past FY 1996 for these tribal departments of education? Will any funding for such departments of education be provided by the tribes or by public school districts funding schools serving tribal students on or near Indian reservations?

Answer: The request of \$500,000 will be used to implement planning for Tribal Departments of Education and provide "seed money" for those who have completed education plans, but lack funding to begin the implementation. The Bureau will need to request \$500,000 each year until all the tribes have had an opportunity to participate. We do not know if tribal or public school funding will be available.

Question 61: According to the justifications (page 106), the tribal departments of education will enhance Indian self-determination as it gives tribes greater decision making in education issues. If greater Indian self-determination and greater tribal decision making capability in education issues is desirable, why is there such great opposition to any proposals which would permit moving all school operations funding into tribal priority allocations or inclusion of school operations funding in self-governance compacts, which would allow tribes flexibility in reprogramming relative to education programs? If greater Indian self-determination and greater tribal decision making capability in education issues is desirable, why aren't tribal leaders currently more involved in decision making for education issues? Why aren't tribal leaders more directly involved in the consultation process for education issues?

Answer: Indications from the consultation hearings are that tribal leaders want their education professionals to be involved and to make recommendations to them based on their professional knowledge of the programs. In some cases, the participants identified as "tribe" or "school board" are actually elected tribal leaders who identify themselves as such because they perform more than one function.

Residential Programs

Question 62: According to the budget justifications (page 95), approximately 47 percent of the average daily membership of BIA-funded schools is enrolled in residential programs due to the distance from the nearest school bus route, or social or academic factors. What is this statistic based upon? Is the average daily membership based upon count week where a student must reside in the dormitory only one full day and one night of only week in September in order to be counted? If so, does the Bureau have any data on what the actual average daily enrollment for residential programs was for the 1993-1994 school year?

Answer: The statistic is based on the Average Daily Membership is taken during student count week. The 47 percent includes those students who reside in the peripheral dormitories and attend the public schools. In order to be counted, the student must be present one full day and reside overnight one full night. The Bureau does not have information on the average daily enrollment for residential programs.

	1993-94	1994-95
ORBS	19,508	19,994
Boarding Schools	21,443	21,786
Residential Only	11,166	10,830

Question 63: What is the relative percentage for each category of students who are enrolled in residential programs due to distance, social, or academic factors? What is the distance from the nearest school bus route that would necessitate enrollment in a residential program? What social situations would necessitate enrollment in a residential program? What academic factors would necessitate enrollment in a residential program?

Answer: The Bureau does not track each category of enrollment percentages in the residential programs. For elementary students the distance from the bus route is one mile; for high school students, one and a half miles. Social situations include court-ordered placement, rejected or neglected children, dysfunctional family situations, physical and sexual abuse, abandonment, unsafe environment, attendance and alcohol and substance abuse. Academic situations are closest school grade level not offered, racism and prejudice which affect academic performance, severe overcrowding of school, special vocational/preparatory training, special programs to meet deficiencies and linguistic and cultural programs needed.

Question 64: What are the trends in enrollment for residential programs? Is the percentage of overall enrollment changing or remaining at the same relative level?

Answer: The trend in residential enrollment in peripheral dormitories is down slightly due to the availability of day schools in the home communities. The residential program enrollment dropped one and a half percent from 1993 to 1994. Residential boarding schools' enrollment is up slightly.

Question 65: What are the guidelines for accepting students in a residential program? Must the student meet criteria based on distance or social or academic factors or can parents simply choose to enroll their children in a residential programs?

Answer: Parents have a choice. Some parents want their children to go to the boarding school because their siblings are enrolled or because the parents attended the school. There are generally two criteria which students must meet, that is Education criterion and Social criterion. Most students fall into one or the other category.

Question 66: Once enrolled in a residential program as a result of social or academic factors, can a student return to a non-residential school if certain criteria are met? If so, what criteria must be met? What is the average number of such transfers which occur during a school year for each residential program by program?

Answer: With the exception of court ordered placement or social services ordered placement, students may return to a non-residential school. There is no specific criteria that must be met. The Bureau does not have the administrative resources or technology to keep statistics on the number of transfers during the school year.

Question 67: How do the retention rates and test scores for residential programs differ from non-residential programs retention rates? How do costs for residential programs compare with costs for non-residential programs? How much additional ISEP funds are provided for residential programs?

Answer: The Bureau does not separate retention rates and test scores for residential programs from non-residential programs. It appears however, that given the unique problems of students often experienced by residential students that it costs more to provide services for boarding students since they require 24 hour care. These students may have higher drop out rates and lower test scores. The funds from ISEP are determined by the additional weight between 1.25 and 1.4 depending on various activities such as student age (grade), residential and instructional programs, Intensive Residential Guidance programs, residential bilingual, or residential handicapped.

Johnson-O'Malley Assistance Grants

Question 68: In FY 1996, \$22,752,000 is requested for Johnson-O'Malley Assistance Grants through Tribal Priority Allocations. Approximately \$1.7 million was transferred to self-governance compacts in FY 1995. Funding for the Johnson-O'Malley program was transferred to Tribal Priority Allocations in FY 1995 in response to recommendations from the Joint Reorganization Task Force. When will the Office of Indian Education Program publish in the Federal Register the regulations for distributing funding for FY 1996?

Answer: Based on tribal consultation conducted in October 1994, the Bureau is seeking additional input from Indian country on two proposed distribution methods: (A) Johnson O'Malley (JOM) funds will be distributed to tribes in their Tribal Priority Allocations (TPA) according to tribal membership; (B) JOM funds will be distributed to tribes and non-tribal JOM contractors according to service population under the budget category, Special Programs and Pooled Overhead. These two methods will be published in the Federal Register in June 1995. The comment period will be open for thirty days. A final determination will be made based on comments received and then published as a final rule.

Question 69: Why is there opposition to the transfer of Johnson-O'Malley funds to Tribal Priority Allocations? Why was this an item for consultation by the Office of Indian Education Programs during the April, 1995 consultations?

Answer: Many non-tribal contractors and tribal educators fear the loss of JOM services. They fear that tribal leaders and councils may not be sympathetic towards the JOM program and that it will be lost in tribal politics. Johnson O'Malley was not a subject for consultation in April, however, moving all of education into TPA was discussed. The Bureau will announce the formula distribution options in the Federal Register in July, 1995, and will give consideration to tribal comments at that time.

Question 70: To what extent have tribes reprogrammed funds from education programs that are part of the Tribal Priority Allocations?

Answer: The other education programs on TPA are Higher Education, Adult Education and Tribally Controlled Community College supplements. Generally, tribes place a high priority on education and tend not to take funds from the programs. If anything, tribes reprogram small amounts into the categories, especially Higher Education scholarships.

Student Transportation

Question 71: The request for student transportation is \$28,512,000, which represents an increase of approximately \$3.8 million, or about 15 percent, above the current level of \$24.7 million. According to the budget justifications, the increase will support additional bus routes and day school mileage, which will result from the projected increase in enrollment in kindergarten classes. In addition, the funding request is projected to support a rate of \$1.71 per mile, which is an increase over the projected level of \$1.54 per mile for FY 1995. According to the budget justifications (page 104), schools having transportation costs in excess of \$1.71 per mile use ISEP funds to make up the difference. What is the projected increase in kindergarten enrollment which will result in the additional day miles?

Answer: The projected increase in kindergarten enrollment is four percent, but schools are impacted due to the regulations for transporting kindergarten children. An increase of two or three kindergarten children can necessitate an additional bus run because those children must be delivered to their home and not to a drop off point. Someone must be present to accept the child or the bus driver returns to the school with the child.

Question 72: How many schools are expected to have transportation costs in excess of \$1.71 per mile? How much ISEP funding is expected to support transportation costs in FY 1996?

Answer: The Bureau does not have data on which of the schools will experience a shortfall in transportation funds. The Bureau does not track how much of the ISEP funding is used for transportation costs. Each individual school would have to obtain the information which is difficult to separate since the charges are coded to the ISEP account instead of the transportation account.

Question 73: What are allowable student transportation costs? What are allowable costs for extracurricular activities?

Answer: Allowable costs are daily transportation to and from school for the day schools and four trips for boarding schools. The four trips include: to school in the fall; home for Christmas holidays and back to school; and to home when school is over in the Spring. Presently, there are no allowable costs for extracurricular activities.

Question 74: How much discretion do schools have in making decisions that affect student transportation, such as the number of trips home that dormitory or boarding school students make during the school year? How do the actual number of trips home from dormitory or boarding schools compare with those that are authorized?

Answer: The local school boards have the authority to determine the programs in the schools. They have discretion to make decisions that allow the schools to operate within their budgets. Some boarding schools allow students to return home for the weekend and to return on Sunday for school. Those are individual school decisions and are not reported for funding. The Bureau would have to contact each boarding school for the information in order to do a comparison since the mileage is not reported.

Question 75: What restrictions are there for using ISEP funds for purposes other than classroom instruction, such as student transportation?

Answer: While school boards have some discretion, ISEP funds are the only operational funds the schools receive and uses of ISEP for purposes other than instruction would be limited to transportation and in rare cases, facilities operation and maintenance, especially custodial costs. School boards may not spend over and above what is allowed by statute.

Question 76: How does BIA monitor transportation costs?

Answer: Schools report mileage by bus route for three days during count week. The comparison is made against the previous year. Any large discrepancies are be questioned and the individual school or Line Office who certified the mileage contacted for an explanation. When the ISEP auditor visits the schools during the ISEP audit, the records are reviewed and usually the auditor rides a bus route to check the number of drop off points and mileage.

Question 77: Do BIA-funded schools have the ability to share bus routes with public schools to reduce student transportation costs for both systems? If so, are there any incentives to do so?

Answer: Bureau school buses and public school buses may drive the same routes, but do not share buses for transportation of students because of the liability that could be incurred. There is no incentive in terms of funding for either system to share the buses.

Question 78: What percentage of the total student transportation miles are driven on unimproved roads and receive the additional 20 percent weight given by the current distribution method? Is this percentage remaining constant or changing from year-to-year?

Answer: The percentage of transportation miles on unimproved roads for day school students is 22 percent and appears to be increasing from year to year. The percentage of residential school student transportation on unimproved roads is seven percent.

ISEP Travel

Question 79: Training and conferences relating to Indian education programs are sponsored by other groups, such as the National Indian School Board Association and the Navajo Area School Boards Association, and attended by staff of the Office of Indian Education Programs and schools funded by the BIA. Please provide a list of any meetings, conferences, or training sponsored by groups outside the BIA where BIA funded all or part of the costs, either for attendance by staff or for other purposes. What control does the BIA have as to where these meetings, conferences, or training are held or what is presented at them?

Answer: The Bureau does not control the agendas of the school board association conferences. The agendas are determined by the associations with input from their members. The locations are determined by the associations and use the same criteria as the FACE conferences, large enough accommodations, enough sleeping rooms and conference space, accessibility to airports or ground travel and cost effectiveness. The funding comes from the School Board set aside from ISEP. A list of meetings and conferences that the Bureau has knowledge of is provided on the following page.

Question 80: Does the Bureau approve BIA-funded attendance at meetings, training, or conferences for school and school board staff for both Bureau-operated and contract and grant schools? If not, what approval is required for such travel?

Answer: Approval for principals' travel and training is made by the Education Line Officer. School personnel travel would be approved by the Principal or Chief School Administrator. School Board travel would be approved by the school board and Education Line Officer travel would be approved by the Central Office. Contract and grant school travel is not approved by the Bureau at any level. It is the responsibility of the grant or contract school administration.

Question 81: According to the table on page 93 of the budget justification, the purpose of \$162,000 of \$626,000, or about 25 percent, of ISEP funds spent on travel was classified as "other". What types of travel would fit in the "other" category?

Answer: The finance system classifies "other" travel as object class 21 and states travel performed for reasons other than those displayed in the other nine categories. For example: teachers who make home visits to students with extended illnesses that are considered "homebound" would be coded to the "other" account. Also, chaperons for the buses transporting students to and from school would be coded to that account. Chaperons are necessary when trips are long and/or overnight.

Declining Enrollment Funds

Question 82: Schools who experience a greater than 10 percent decline in enrollment from the prior year receive support to lessen the impact of reduced ISEP allocations. For the FY 1994-1995 school year, how many schools received funding and what level of funding was provided for each of these schools? Did all schools who qualified for funds receive them? How did the number of schools experiencing a decline in enrollment for the 1994-1995 school year compare with the number of schools with declining enrollment for the 1993-1994 school year?

Answer: The following nine schools received funding for declining enrollment for the FY 1994-1995 school year:

Promise Day School	\$ 5,900
Swift Bird Day School	13,700
Riverside Indian School	128,300
Carter Seminary	44,000
Wahpeton Indian School	399,400
Gila Crossing Day School	13,100
Isleta Elementary School	34,400
San Ildefonso Day School	4,000
Santa Clara Day School	<u>16,700</u>
Total	\$600,000

All schools who qualified received funding. The level of funding is determined by formula. The same number of schools were funded in 1993-1994. The number of schools receiving declining enrollment funds has decreased in the past five or six years.

School Facilities Operation and Maintenance

Question 83: The request for facilities operation and maintenance is \$72.2 million, which is an increase of approximately \$4.4 million, or about 6 percent, above the current level. According to the budget justifications (page 105), space increases as a result of repair and construction programs has resulted in approximately 980,000 additional square feet of space anticipated to be added to the education inventory in FY 1996. The additional space is the result of projects such as Mille Lacs and Oneida Tribal schools. Please describe the Mille Lacs and Oneida Tribal schools projects, including the amount of space added to the inventory as a result of these projects.

Answer: Mille Lacs is described in the FACCOM inventory as Nay Ah Shing School. A new school building number 43 which is 43,000 square feet was completed and added to the FACCOM Inventory for FY 1995. The Oneida Tribal School is a new tribally constructed school which was occupied in September 1994, but has not been added to the FACCOM Inventory. Building number 2 is 160,000 square feet, but only 100,000 square feet will be used for a Bureau approved education program.

Question 84: What are the average operations and maintenance costs associated with an additional school entering into the BIA school system? For the last five schools which have been added to the BIA system, what have been the operations and maintenance costs for each school?

Answer: The following table provides the information requested:

Name of School	Square Feet	Funding Need	Actual Funding	Per Sq. Ft. Need	Per Sq. Ft. Actual
Marty Indian Sch.	12,412	\$ 51,677	\$ 37,627	\$4.16	\$3.03
Dunseith School	43,211	211,933	154,314	4.90	3.57
Nay Ah Shing Sch.	43,000	212,905	155,021	4.95	3.91
Hannahville School	46,200	221,400	161,207	4.79	3.49
Choctaw	33,347	139,928	101,885	4.20	3.06

Administrative Cost Grants

Question 85: The request for administrative cost grants is \$42,160,000, which is an increase of \$5.6 million, or about 15 percent, above the FY 1995 level. According to the budget justifications (page 105), at least four schools will convert to grant in FY 1996, which will increase the need for administrative cost grant funds. In addition, it will be the second year for two schools brought into the system in FY 1995, and costs increase in new grants after the first year as ISEP funds are added to the base. What schools are expected to convert to grant schools in FY 1996? Explain the reason for administrative cost grants to increase in the second year for new grants.

Answer: At this time, the Bureau expects the Salt River Day School, Rock Creek Day School, Isleta Day School, Zia Day School, and San Juan Day School to convert to grant status. In the second year, the rate remains the same, but the total program funding increases, which increases the Administrative Cost Grant funding they receive.

Question 86: The budget justifications (page 101) contain the formula for determining funding for individual administrative cost grants. According to the justifications, the Bureau anticipates paying 89 percent of the amount derived by the administrative cost formula in FY 1995. Please explain each cost factor that is part of the formula and how each is calculated.

Answer: The tribe's direct cost base is the sum of all tribal elementary and secondary education program dollars received by the tribe or tribal organization. The minimum base of 11 percent, the standard direct cost base of \$600,000 and the maximum base of 50 percent were established by *Public Law 100-297*. The sum of these items is divided by the sum of the tribe's direct cost base plus the standard direct cost base of \$600,000. This formula is used to calculate the Administrative Cost Grant rate. Once the rate is calculated it is applied to the current Bureau elementary and secondary funds to calculate the Administrative Cost Grant. This calculates the school's Administrative Cost Grant "need." However the "total need" is compared to the appropriations and pro rated if necessary. The payment is made based on available funds.

Question 87: What administrative support does the Bureau provide BIA-operated schools that contract or grant schools do not receive?

Answer: Bureau operated schools receive more program support from Line Officers and the Central Office such as assistance with tracking financial obligations, budget information in preparation for coming years, personnel services in Labor Relations and Employee Relations cases and student count. In addition, the Bureau provides administrative support in personnel, specifically the contract educator system; processing of some procurement, especially the large items such as food, laundry, bread and milk contracts; and finance.

Question 88: How does the level of "need" generated by the formula that is funded in FY 1995 compare with that which has been provided from FY 1992 through FY 1994 and what is requested for FY 1996?

Answer: The Bureau was able to fund the following percentages of need:

1992-1993	65.07 percent
1993-1994	83.58 percent
1994-1995	95.90 percent

Area and Agency Technical Support

Question 89: In FY 1996, \$6,897,000 is requested for area and agency technical support, a decrease of \$294,000 below the current level. Full-time equivalents are proposed to be reduced from 128 to 124. What specific administrative and oversight functions will actually be reduced as a result of the decrease in funding? Where will the FTE reduction be taken?

Answer: At the Laguna Agency, all schools will be grant schools. The supervision of the day-to-day operation of the schools will be reduced and the FTE reductions will be taken at that location. When all schools in an agency are grant, there is usually no need for a presence at that location and the residual functions are performed at a nearby agency, in this case, Southern Pueblos Agency Education Office. The specific functions which are reduced are: assistance in tracking finances, personnel actions, supervision of principal is eliminated, technical support as second line supervisor is eliminated, and reporting requirements are reduced.

Department of Education Funding

Question 90: The budget justifications lists a series of Department of Education programs for which BIA-funded schools received approximately \$72.7 million in FY 1995. The FY 1995 funding for these programs included approximately \$28.6 million for Individuals with Disabilities Education Act, \$50,000 for education of homeless children and youth, \$1.3 million for math and science, \$1.9 million for the Title VII - Bilingual Education Program, \$35.5 million for Chapter 1 - Education Consolidation & Improvement Act, and \$5.4 million for Drug Free Schools & Communities Act. In addition to ISEP funds and administrative cost grants, what is the total other funding received by BIA-funded schools? What percentage of the overall funding for these schools does this additional funding represent? How much of the funds provided by the Department of Education are provided for administering the programs?

Answer: The total funding includes Facilities Operation and Maintenance funds which go to all schools. Other sources of funds for some schools who participate in the programs include the Effective Schools funds and Early Childhood Education. The Department of Education funding, (\$72.7 million) represents 18.33 percent of the overall funding for FY 1995. Chapter 1 represents the highest percentage of funding at 8.95 percent. In Chapter 1, the Bureau is allowed \$477,000 of the \$35.5 million for the State Education Agency (SEA) administrative activities required by law. The programs are administered with approximately 1.3 percent of the funds. In the Drug Free School and Communities Act, 7.5 percent of the funds was distributed to the 25 agencies for the purpose of providing technical assistance and 2.5 percent remained at the OIEP for administrative purposes.

Question 91: Are any administrative cost grant funds received for the Department of Education funds received by BIA-funded contract and grant schools?

Answer: The law allows the Department of Interior to bill the Department of Education for administrative costs; however the Bureau has not received any administrative cost-grant funds.

Question 92: Are there any limitations on the use of the funds provided by the Department of Education? Can these funds be used for travel, training, school transportation, or school lunches?

Answer: The use of funds appropriated under the Improving American Schools Act (IASA) is limited to the purposes described in the authorizing legislation. Schools receive their funds through an application that is approved by OIEP, acting as the State Education Agency (SEA). The Central Office, OIEP, reviews the applications to determine whether the proposed activities meet the intent of the law. The law does allow the funds to be used for travel and training relate to the project activities. Funds may be used for lunches and school transportation only when IASA funds are used to extend the school year beyond the 180 days of school funded under ISEP and when there are no ISEP funds available.

Question 93: Given the funding constraints which are expected in FY 1996, what would be the impact on BIA schools if the Department of Education funding was reduced or eliminated?

Answer: Title One grants, funded through the Department of Education, provide "compensatory education" programs to poor and low-achieving children. In FY 1995, BIA schools received \$42 million in Title One set-aside grants. The FY 1996 President's Budget proposes 443 million. About 20,000 Indian children benefit directly from Title One programs which include reading laboratories, home liaison counselors and supplemental tutoring both during the school year and during the summer. Contrary to the House assertion, BIA schools do not receive funds from the Basic Grants program.

Elimination would be devastating to the students attending BIA schools. Because of the high rate of poverty on Indian reservations, students attending BIA schools are among the most disadvantaged student groups in the country. Title One grants have helped to raise the educational achievement of Indian children who have traditionally lagged behind the rest of the nation. Data prove that the grants result in increased scores in national math and language tests. Without the grants, it is likely that academic gains made among BIA students will be diminished, particularly with respect to correcting deficiencies in reading, math and language.

Elimination of the Title One program will cause a Reduction in Force of over 1,000 teachers, teacher aides and counselors, further contributing to the unemployment rate on Indian reservations.

The BIA School Operations budget cannot absorb the Title One grant programs, as BIA funds are stretched to support an increasing student enrollment. Further, the loss of services resulting from eliminating Title One is compounded by the House budget resolution proposal to reduce BIA operations by 12 percent below the FY 1995 level. The combined effect of a loss of the Title One program and a 12 percent reduction in school operations will result in closure of several schools within the BIA system. Give the remote and isolated location of many BIA schools the alternative would be sending Indian children to boarding schools far away from their parents. History has proven this to be a disastrous policy.

BIA funding is analogous to state and local funding. The special programs that the Federal government has seen fit to fund through the Department of Education must be provided to BIA schools, otherwise Indian children are not afforded equal treatment.

If funding is reduced or eliminated for the Drug Free Schools and Communities Act, programs specifically addressing problems of violence, alcohol and substance abuse prevention would be eliminated. Current data reveals that alcohol and substance abuse is by far the number one problem among the Indian population. Programs for students, staff and parents, including awareness workshops and participation in national campaign efforts such as child abuse, FAS/FAE awareness and smoke outs would be eliminated as would personnel with the training to adequately and professionally deal with problems of violence, and alcohol abuse. Professional alcohol and substance abuse counselors are not employable at Bureau schools primarily due to the prohibitive cost for salaries and because of the credentials and certification needed to work with students. The Bureau must train existing staff to become certified to provide the needed prevention and intervention to deal with the problems facing the "at risk" children served by the Bureau. There are no other programs in the Bureau which address these issues.

Question 94: What specific activities are funded through the Chapter 1 - Education Consolidation & Improvement Act? Please provide a listing by school of the amount of Chapter 1 funds received for FY 1995. How successful are the Chapter 1 - Education Consolidation & Improvement Act programs provided by the BIA-funded schools?

Answer: The Act authorizes funds to be used in programs that are designed to enable all students to meet challenging content and performance standards. Schools typically use the funds to provide: additional staff, such as Reading and Math specialists and instructional assistants; extended day, extended year and tutorial programs; training to staff in research based programs, such as Higher Order Thinking Skills (HOTS), Reading Recovery, Math Their Way, Whole Language and Success for All; training to parents on how to assist children at home and to fund additional computer components and instruction. A listing by school of the amount of Chapter 1 funds received for FY 1995 is provided on the following pages.

The following is taken from the FY 1994 Chapter 1 Annual Performance and Evaluation Report. The results are:

BIA

Math (basic skills)	3.0 Normal Curve Equivalent (NCE) gain
Math (advanced skills)	2.5 NCE gain
Reading (basic skills)	1.3 NCE gain
Reading (adv. skills)	2.1 NCE gain
Language Arts	3.1 NCE gain

**TENTATIVE
SY 1995-1996
CHAPTER 1**

SCHOOL NAME	
Takini School	247,100
Promise Day School	25,500
Swift Bird Day School	48,300
White Horse Day School	36,000
Cheyenne-Eagle Butte School	830,600
Pierre Indian Learning Center	193,600
American Horse School	145,200
Little Wound Day School	706,200
Wounded Knee School District	179,600
Loneman Day School	326,800
Pine Ridge School	689,500
Porcupine Day School	102,300
Crazy Horse School	306,600
St. Francis Indian School	552,800
Marty Indian School	254,100
Enemy Swim Day School	73,100
Tiospa Zina Tribal School	361,000
Tate Topa Tribal School (Four Winds)	392,500
Rock Creek Day School	64,300
Little Eagle Day School	90,600
Standing Rock Community School	480,100
Theodore Jamerson Elementary School	96,100
Dunseith Day School	210,300
Ojibwa Indian School	339,100
Turtle Mountain Elementary School	653,600
Turtle Mountain Middle School	306,600
Turtle Mountain High School	462,600
Trenton School	175,200
Mandaree Day School	200,600
Twin Buttes Day School	55,300
White Shield School	153,100
Crow Creek Sioux Tribal Elementary School	179,400
Crow Creek Reservation High School	251,400
Lower Brule Day School	299,600
Riverside Indian School	317,200
Kickapoo Nation School	118,900

TENTATIVE
SY 1995-1996
CHAPTER 1

<u>SCHOOL NAME</u>	
Sequoyah High School	268,100
Busby School	168,000
St. Stephens Indian School	244,400
Sac & Fox Settlement School	84,500
Bug-O-Nay-Ge Shig School	383,700
Circle Of Life Survival School	145,200
Fond Du Lac Ojibway School	259,300
Nay Ah Shing School	219,000
Lac Courte Oreilles Ojibwa School	271,600
Oneida Tribal School	467,900
Menominee Tribal School	203,300
Behweting Saulte Ojibwa School	175,200
Hannahville Indian School	130,300
Flandreau Indian School	531,800
Wahpeton Indian Boarding School	138,200
Cibecue Community School	292,600
John F. Kennedy Day School	184,900
Theodore Roosevelt School	87,100
Santa Rosa Ranch School	118,000
Santa Rosa Boarding School	275,100
San Simon School	261,100
Tohono O'odham High School	178,500
Blackwater Community School	62,600
Casa Blanca Day School	241,800
Gila Crossing Day School	60,800
Salt River Day School	139,900
Polacca Day School	144,300
Second Mesa Day School	233,100
Hopi Day School	70,500
Hotevilla Bacavi Community School	111,900
Moencopi Day School	152,200
Keams Canyon Boarding School	93,200
Hopi High School	429,700
Havasupai School	90,600
Noli School	32,500
Sherman Indian High School	389,000
Pyramid Lake High School	41,300
Duckwater Shoshone Elementary School	33,800
Sky City Community School	270,700
Isleta Elementary School	177,600
Jemez Day School	171,500
San Felipe Pueblo Elementary School	295,300
Zia Day School	92,400
Pine Hill Schools	409,200
Mescalero	234,800
Laguna Elementary School	297,000
Laguna Middle School	175,000
San Ildefonso Day School	33,400
San Juan Day School	56,200
Santa Clara Day School	111,900
Taos Day School	158,300
Te Tsu Geh Oweenge Day School (Tesuque)	62,600
Santa Fe Indian School	480,100
Aneth Community School	215,500
Beclabito Day School	92,600
Cove Day School	77,500

TENTATIVE
SY 1995-1996
CHAPTER 1

SCHOOL NAME

Menahnezad Boarding School	363,600
Red Rock Day School	208,500
Sanostee Day School	87,100
T'iis Nazbas (Teechospos) Community School	329,400
Toadlena Boarding School	261,100
Shiprock Alternative High School	152,600
Shiprock Alternative Elementary School	132,900
Navajo Preparatory School	172,300
Chilchinbeto Day School	118,000
Dennehotso Boarding School	295,300
Kaibeto Boarding School	361,800
Kayenta Boarding School	339,100
Leupp Boarding School	311,000
Navajo Mountain Boarding School	108,400
Tonalea (Red Lake) Day School	278,600
Rocky Ridge Boarding School	215,500
Shonto Boarding School	506,400
Tuba City Boarding School	805,200
Greyhills High School	346,100
Little Singer Community School	89,700
Baca Community School	148,700
Dibe Yazhi Habitiin Olta, Inc	177,900
Bread Springs Day School	144,300
Chi-Ch'il-Tah / Jones Ranch	223,400
Huerfano Dormitory	39,500
Lake Valley Navajo School	105,800
Mariano Lake Community School	217,300
Ojo Encino Day School	191,900
Pueblo Pintado Community School	251,400
Tse'ii'ahi' (Standing Rock) Community Scho	132,000
Dlo'ay Azhi Community School	121,500
Na'Neelzhiin Ji'Olta (Torreon)	315,400
Wingate Elementary School	530,100
Wingate High School	605,400
T'iists'oozi' Bi'o'lta (Crownpoint Communi	481,900
Dzilth-na-o-dith-hle Community School	290,900
To'Hajiilee-He (Canoncito)	339,900
Alamo Navajo School	311,900
Cottonwood Day School	219,900
Low Mountain Boarding School	202,400
Lukachukai Boarding School	367,100
Nazlini Boarding School	115,400
Pinon Dormitory	62,600
Rock Point Community School	396,900
Rough Rock Demonstration School	558,100
Chinle Boarding School	505,500
Many Farms High School	368,900
Black Mesa Community School	94,100
Chuska/Tohatchi Consolidated School	447,700
Crystal Boarding School	160,100
Dilcon Boarding School	370,600
Greasewood Boarding School	338,200
Hunters Point Boarding School	136,400
Kinlichee Boarding School	128,500
Pine Springs Boarding School	93,200
Seba Dalkai Boarding School	163,600

TENTATIVE
SY 1995-1996
CHAPTER 1

<u>SCHOOL NAME</u>	<u>CHAPTER 1</u>
Wide Ruins Boarding School	164,500
Chemawa Indian School	339,900
Paschal Sherman Indian School	168,000
Sho-Ban School District No. 512	122,800
Coeur d'Alene Tribal School	57,900
Quileute Tribal School	61,700
Wa He Lut Indian School	59,100
Lummi Tribal School System	184,000
Chief Leschi School System (Puyallup)	412,700
Muckleshoot Tribal School	68,700
Lummi High School	61,700
Yakima Tribal School	82,700
Two Eagle River School	92,400
Chitimacha Day School	66,900
Cherokee Central School	385,900
Cherokee Elementary School	549,300
Ahfachkee Day School	75,700
Miccosukee Indian School	95,900
Indian Township School	135,500
Beatrice Rafferty School	109,300
Indian Island School	86,200
Red Water Day School	88,000
Standing Pine Day School	70,500
Tucker Day School	96,100
Bogue Chitto Day School	131,200
Conehatta Day School	145,200
Choctaw Central School	307,500
Choctaw Middle School	83,600
<u>Pearl River Elementary School</u>	<u>352,200</u>
	40,247,500

Question 95: What is the basis for distribution of the \$5.4 million provided for the Drug Free Schools & Communities Act? Does every school receive funding? Are any conferences or national meetings held for schools receiving these funds?

Answer: The distribution of the \$5.4 million is determined by a Memorandum of Agreement (MOA) with the Department of Education. Each Bureau funded school receives a \$5,000 base amount and additional funds based on the ISEP formula. There are conferences and meetings held at schools, usually in conjunction with the National School Board Training, the Chapter 1 Principal's Academy or the FACE program since alcohol and substance abuse crosses all programs.

Question 96: Why are BIA scores and graduation rates below those of public schools with significant Indian populations?

Answer: The OIEP has not been able to identify any current research or data on the scores of Indian students in public schools with significant Indian population. In 1990, the OMB directed the Bureau to conduct a cost study comparison of Bureau and nearby public schools. One source of data they desired to collect were academic achievement test scores. The public schools that were selected for this study refused to provide such scores for comparison purposes, thus no data was collected. Standardized academic achievement tests measure the acquisition of academic skills in schools, and the test results provide school staff a "national norm" to help them compare the achievement of their students with that of other students nationwide. Achievements tests are one indicator of student progress in mastering academic skills. There are other ways to measure student progress such as performance based assessment which is a non-timed, non-multiple choice test that many of the Bureau principals advocate using because it more clearly demonstrates the achievement and performance of the students. The reasons the scores fall below the norm include: students at the lower grades are not familiar with test format and procedures, having difficulty setting time limits, answering the wrong questions and not

thoroughly erasing changed responses; timed tests are a factor in the scores for those students who do not well on timed activities; the scores of an unknown number of Special Education students tested out of level may be included in the score the schools submitted and would lower the overall scores; and the high number of limited English proficient children whose results may be included.

Self-Governance Compacts

Question 97: The FY 1996 budget request includes \$79,898,000 for self-governance compacts. According to the budget justifications, 29 annual funding agreements have been negotiated and one tribe is currently in the negotiation process for FY 1995. On October 8, 1994, the Congress passed the Indian Self-Determination and Education Assistance Act Amendments, *Public Law 103-413*, which established self-governance as a permanent program and allowed up to 20 additional tribes to participate each year. How many tribes do you anticipate will enter into self-governance compacts in FY 1996?

Answer: Twenty tribes have been admitted into the applicant pool and have also been selected to negotiate Self-Governance agreements for 1996.

Question 98: Do you expect more than 20 additional tribes to apply to participate in the self-governance program? If so, how do you determine which 20 additional tribes will participate?

Answer: As of June 2, 1995, 25 tribes and consortia of tribes have applied to enter Tribal Self-Governance. Of these 25, 20 have been admitted into the applicant pool and have been selected to negotiate 1996 agreements. The criteria for acceptance into the applicant pool, as stated in *Public Law 103-413*, are: a tribal resolution authorizing the tribe to participate in Tribal Self-Governance; a planning report; and the previous three annual audits reflecting no material audit exceptions.

Question 99: Currently, tribes are prohibited from compacting for education programs. Yet, tribes are permitted to contract or receive grants to operate tribal schools. The Committee is aware that there are tribal leaders who desire to be able to compact for education programs. What is the rationale for excluding education programs from the self-governance program?

Answer: The legislation that authorized both the Self-Governance Demonstration Project and the Tribal Self-Governance Act of 1994 excluded some education programs from Self-Governance agreements.

Question 100: When the reauthorization for the self-governance program was being considered last year, was there an effort to include education programs in the self-governance program? If so, why weren't these efforts successful? If not, why not?

Answer: No effort was made to include education into the Tribal Self-Governance Act of 1994.

Question 101: What was the basis for the Reorganization Task Force recommending that education not be included in Tribal Priority Allocations? If the reason was that the law did not permit it, did the Task Force consider any resolutions which would recommend amending the law?

Answer: The Joint Reorganization Task Force, in its examination of proposed budget reform, recommended that consideration be given to establishing a TPA account for Education.

Question 102: How does exclusion of education program from self-governance compacts support the basic premises of tribal self-determination?

Answer: Much of the flexibility that tribes enjoy under Tribal Self-Governance has been made available to tribes for education programs through the education grants under *Public Law 100-*

297. Tribal self-determination is supported through both mechanisms. However, the Department's position is that true Indian self-determination will never be realized until education programs are included in self-governance agreements.

Self-Governance Grants

Question 103: The FY 1996 budget request includes \$7,365,000 for self-governance grants shortfall funding, which is an increase of approximately \$2.4 million above the current level. The increase is to provide support for an additional 20 tribes which are expected to participate in the program in FY 1996. Among other activities, funds will be used to facilitate negotiations at the central office. Please provide for the record how the \$4,925,000 provided in FY 1995 was allocated.

Answer: Approximately \$4.4 million was used to cover category one shortfalls - those cases in which the Bureau was unable to provide the FY 1995 negotiated amount without creating an adverse impact on other tribes. In addition, \$350,000 was used to provide an equal amount to the participating tribes for start-up and implementation costs, or category two shortfalls. All but the four "stable base" tribes received \$14,000 each. Also, \$150,000 provided funding for the Lummi Self-Governance Education Project.

Question 104: How much of the funding requested in FY 1996 will support central office negotiations? What is the basis for determining the level of funding for this effort?

Answer: The FY 1996 request for Self-Governance grants shortfall funding in the amount of \$7,365,000 is to cover the base transfer of programmatic shortfalls to the existing tribes and to provide shortfall funding for the 20 additional tribes which will be negotiating 1996 agreements and to provide planning/negotiation grants to an additional 20 tribes in preparation of the 1997 negotiations. None of these funds will be used to cover central office negotiations.

Question 105: The Bureau is currently developing a methodology for determining central office shares for tribes, which includes determining federally-inherent responsibilities for which residual funding should remain at the central office. What level of compacting and contracting is assumed as part of determining central office shares? When is it likely that such a level of contracting and compacting will be achieved by the tribes for BIA programs?

Answer: In order to determine the level of funding that would be needed at central office to perform inherently federal functions, it was assumed all programmatic responsibility would be transferred to the tribes either through *Public Law 93-638* contracting or self-governance compacts. While this assumption was useful for purposes of identifying those tasks that are currently being performed by the central office that are necessary to meet the Secretary's trust responsibility, it is unlikely that this level of contracting and compacting will be achieved in the near future.

Question 106: How will the recognition of additional tribes impact the formulas for distributing central office shares?

Answer: At the time the tribal shares formulas were being developed, there were 554 federally-recognized tribes. It is not possible to estimate tribal shares of central office resources for tribes anticipated to be recognized in the future. In addition, it is not possible to predict when a newly recognized tribe will propose to contract for the operation Bureau programs.

In future budget requests, the Bureau may need to consider requesting additional resources in the New Tribes budget line item for those tribes close to attaining federal recognition and those newly recognized tribes expected to propose entering self-determination contracts or self-governance compacts.

Question 107: Please describe the process for determining central office shares and the schedule of when these shares will be negotiated with the tribes.

Answer: The tribal share formulas for central office operation and for pooled overhead for contracting and compacting tribes represent a share of administrative overhead costs as such costs are specifically and functionally related to the delivery of all of BIA's programs, services, functions and activities to all tribes less a residual amount that would continue if all programmatic responsibility was assumed by tribes. Two formulas are used. One determines tribal shares of central office operations and the second determines tribal shares of pooled overhead. The formulas are:

Central Office Operations Formula:

The ratio of the amount of central office operations, less residuals and amounts for education, as a percent of the Bureau's adjusted direct appropriation

Pooled Overhead Formula:

The ratio of the amount of pooled overhead, less residuals and amounts for education, as a percent of the Bureau's adjusted direct appropriation

Summary of tribal shares of central office formulas using FY 1996 budget request is the following:

Central Office Percent:	2.8 percent
Pooled Overhead Percent:	1.5 percent

The formulas, once they have been adjusted for Congressional action on the 1996 budget will be applied to each tribes' 1996 negotiated annual funding agreement once it has been adjusted to reflect Congressional action.

Tribal shares have already been negotiated for FY 1996 with the compact tribes, subject to the appropriations. For tribes contracting under *P.L. 93-638*, negotiations for tribal shares will begin in October, unless the appropriations language precludes the distributions.

Question 108: What mechanisms will be in place to ensure that shares are negotiated in a manner that will be equitable to all tribes, both in the near-term and in the long-term?

Answer: The Tribal Self-Governance Act of 1994 requires the Department to negotiate annual funding agreements with all self-governance tribes. It is anticipated that the formulas for compacting and contracting tribes presented in the Department's final report to Congress will be used in succeeding years. The actual calculation of the percentages will be determined by the amounts appropriated by the Congress.

Question 109: How will reductions in funding for the Bureau of Indian Affairs impact tribal shares for central office functions?

Answer: The formulas will be calculated based on Congressional action on the FY 1996 budget. These formulas will then be applied to the negotiated annual funding agreements. Potentially, the percentages calculated following Congressional action will be smaller than the percentages calculated based upon the President's FY 1996 Budget.

Question 110: Part of the assumption in negotiating tribal shares is that the Bureau will no longer provide the services for which the shares are negotiated. How will the Bureau ensure that sufficient funds have been retained to ensure that trust responsibilities can be protected?

Answer: Prior to the determination of tribal shares for each program, the Bureau identified the level of resources needed to meet the Secretary's trust responsibility should all programmatic responsibilities be assumed by tribes. Once the residual level of resources was determined, a formula was developed to identify tribal shares of the remainder of each program. The funds retained by the Bureau consist of the tribal shares not withdrawn by tribes plus the program

residuals. Through this process, the Bureau believes that sufficient funds will be retained to meet the Secretary's trust responsibility.

Question 111: Are there currently any services that the central office provides to self-governance tribes or contracting tribes that were not provided prior to the tribes compacting or contracting?

Answer: There no services that the central office provides to self-governance tribes or contracting tribes that were not provided prior to the tribes compacting or contracting.

Trust Funds Management

Question 112: For Financial Trust Services, the FY 1996 budget request includes \$16,826,000, an increase of \$612,000 above the current level. A total of 100 FTEs will be supported by the funding. Funding is requested to continue ongoing reconciliation activities with Arthur Andersen & Company. Please provide a breakdown of the activities which will be funded with the requested \$16.8 million.

Answer: Details of planned activities are provided on the following page.

Office of Trust Funds Management Budget Analysis by Functions FY 1996

PROGRAM FUNCTIONS	TOTAL	DETAIL	DESCRIPTION
OTFM	7,025,800	5,344,300	OTFM Salaries and Benefits
		550,000	Travel/Transportation
			345,000 Travel
			205,000 Training
		96,500	Rent, Communication, Utilities
			9,500 GSA vehicle rentals
			87,000 OTFM Communications
		29,000	Printing & Reproduction
		631,000	Contracts and Contract Services
			185,000 Anadarko MOU for services
			59,000 Written Policies, Procedures & Manuals
			334,000 Desk Operating Procedures
			18,000 Improve Cash Management
			35,000 Bloomberg
		375,000	Equipment, Supplies & Materials
			215,000 OTFM Supplies & Materials
			160,000 OTFM Equipment
SHORT TERM PROJECTS	2,410,000	260,000	Annual Lease Trust System
		1,000,000	Develop/Implement IIM Accounting system and any modifications for the new Omni System
		600,000	Investment Advisory Services
		100,000	Centralized Custodial Services
		100,000	Document imaging equipment for field locations
		350,000	Annual Financial Audits
PAST RECONCILIATION PROJECT	6,842,260	995,300	Salaries & Benefits
		623,000	Travel: Past Recon., AA & Co., C&L, and 5 Tribes
			617,000 Travel
			6,000 Training
		7,000	Rent, communications, Utilities
		36,500	Shipping of Goods
		1,000	Printing & Reproduction
		5,102,460	Contracts
			4,502,460 Arthur Andersen & Co.
			600,000 Coopers & Lybrand
		77,000	Equipment, Supplies & Materials
			41,000 Past Reconciliation Supplies & Materials
			36,000 Past Reconciliation Equipment
OVERSIGHT OF OTFM	548,000	548,000	98,000 MOU w/ DOI for Staff Asst. to the Deputy Commissioner
			400,000 Intertribal Monitoring Association
			50,000 ITMA Travel
Total Central Office Operations	33,652,120	16,826,060	
Area Office Operations	2,448,000	2,448,000	
Other Recurring (Agencies)	3,186,000	3,186,000	
TOTAL - FINANCIAL TRUST SERVICES	39,286,120	22,460,060	

Question 113: What activities of the American Indian Trust Fund Management Reform Act of 1994 (*Public Law 103-412*) will be supported in FY 1996? What is the level of funding associated with each of these activities?

Answer: The FY 1996 budget directly funds most of the requirements of the Reform Act, including:

Sections 101/102. Affirmative Action Required/Responsibility to Account

The 1996 request includes \$12.7 million to fund on-going trust operations at the Central, Area, and Agency levels. In addition, \$2.4 million is requested for short-term improvement projects and contracts that are necessary for the Bureau to fulfill its responsibilities under this section.

Section 103. Authority for Payment of Interest on IIM Accounts

The 1996 request includes \$12.7 million to pay retroactive interest on IIM accounts related to investments in failed credit unions.

Section 204. Technical Assistance

While no specific line item is included in the budget request for technical assistance, the Bureau fully intends to provide assistance within available funding and staff resources to assist tribes as much as possible in this important endeavor. The Bureau intends to reallocate a portion of its budget once it determines the types of assistance desired, which will be determined as regulations and interim procedures are developed.

Section 205. Grant Program

The Bureau's budget does not include separate funding for the grant program. The purpose of the grant program is to assist tribes in developing and implementing plans for the investment of tribal trust funds. The Reform Act authorizes, rather than mandates, these grants. While there is no specific funding, tribes may use their tribal priority allocations for this activity.

Section 302. Office of Special Trustee

The 1996 Request for the Office of the Secretary includes \$447,000 for the Office of Special Trustee.

Question 114: What is the current staffing level of the OTFM? How many positions are currently vacant? Please provide a list of all vacant positions, including the actions which have been taken to fill the vacancy and when the vacancy is expected to be filled. Does the FY 1996 budget request assume that all positions will be filled? What are the major factors which make recruitment and retention difficult for the OTFM? What steps are you taking to overcome these obstacles?

Answer: Current staff on board include 83 full-time permanent employees and 28 full-time temporary employees. The temporary positions assist the twenty year backward reconciliation project.

Currently vacant positions include 22 full-time permanent positions, one full-time term position, and eight full-time temporary positions. A detailed listing of vacant positions is provided on the following page. The FY 1996 request assumes all positions will be filled.

The major barrier to filling the OTFM positions has been a lack of Indian candidates. We have been faced with a limited pool of candidates for these positions under Indian preference. However, the OTFM has undertaken an aggressive recruitment approach. All positions at grade 14 and above are advertised in the "Wall Street Journal" in an attempt to broaden this pool. Additionally, vacancy announcements are mailed to colleges, tribes, Area and Agency offices, various Indian publications, and accounting firms nationwide to enhance recruitment possibilities. Also, the OTFM is laddering positions two to three grades where appropriate, to retain staff longer. It is expected that those hired into positions at lower grade levels will remain with the organization for two to four years before reaching the optimum grade level and hence pursue other higher graded positions.

POSITION NUMBER	GRADE/STEP	POSITION TITLE	COMMENTS
OFFICE OF THE DIRECTOR			
D43.4520	GS-0505	DIRECTOR	STATUS UNKNOWN
D43.4526	GS-0301-9/11	PROGRAM ANALYST	Cancelled due to early buyout
ADMINISTRATIVE SUPPORT STAFF			
D43.4536	GS-0301-12	HUMAN RESOURCE SPECIALIST	Certificate of eligibles issued - selection will be made by 6/30/95
DIVISION OF QUALITY ASSURANCE			
D43.4400	GS-0510-15	SUPRVY ACCOUNTANT	Advertisement pending with Albuquerque Area Office (AAO) Personnel. SF-62 submitted to AAO on 6/13/95
D43.4428	GS-0510-12/13	ACCOUNTANT	SF-62 submitted for classification/advertisement to AAO Personnel
D43.4418	GS-0510-6/7/9/11/12	ACCOUNTANT	Request readvertisement to AAO Personnel by 6/13/95
D43.4419	GS-0510-9/11	ACCOUNTANT	Advertising pending with AAO Personnel. SF-62 submitted to AAO on 6/13/95
Branch of Field Review			
D43.4409	GS-0510-12	ACCOUNTANT	Awaiting approval from Central Office, Wash., D.C. on request for Administrative Reassignment
D43.4412	GS-0510-6/7/9/11	ACCOUNTANT	Request readvertisement to AAO
D43.4433	GS-0343-13	MANAGEMENT ANALYST	Sent back to AAO Personnel w/ no selection made/HOLD
DIVISION OF TRUST FUNDS SYSTEMS			
D43.4447	GS-0334-1 2/13	COMPUTER SPECIALIST	Awaiting certificate of eligibles from AAO Personnel by 6/26/95
DIVISION OF TRUST FUNDS ACCOUNTING			
D43.4550	GS-0525-6/7	ACCOUNTING TECHNICIAN	Awaiting certificate of eligibles from AAO Personnel by 6/26/95
Branch of Tribal Funds			
D43.4556	GS-0510-12	ACCOUNTANT	This advertisement closed on 6/12/95
DIVISION OF TRUST FUNDS SERVICES			
Branch of Trust Funds Investments			
D43.4566	GS-1160-12	FINANCIAL ANALYST	Due to system conversion at OTFM, preparation of position descriptions have not been completed by supervisor
D43.4568	GS-1160-12	FINANCIAL ANALYST	Due to system conversion at OTFM, preparation of position descriptions have not been completed by supervisor
DIVISION OF REPORTING/RECONCILIATION			
Branch of Past Reconciliation			
D43.4597	GS-1101-13	FINANCIAL ANALYST	This position is currently being advertised from 5/30/95 to 6/29/95
D43.4598	GS-1101-13	FINANCIAL ANALYST	This position is currently being advertised from 5/30/95 to 6/29/95
D43.4501	GS-0343-12	MANAGEMENT ANALYST - term	This position is pending Backward Reconciliation project determination
D43.4503	GS-0343-12/13	MANAGEMENT ANALYST	This position closed on 6/6/95, awaiting certificate of eligibles from AAO Personnel
Branch of Current Reconciliation			
D43.4486	GS-0510-11/12	ACCOUNTANT	Awaiting position description approval from AAO Personnel
D43.4489	GS-0510-6/7/9	ACCOUNTANT	Advertisement pending with AAO Personnel, SF-62 submitted to AAO on 6/13/95
TEMPORARY POSITIONS			
	GS-601-09	SUPRVY ACCOUNTING SPECIALIST	Awaiting position description by supervisory accountant in Branch of Past Reconciliation
	GS-625-06	ACCOUNTING TECHNICIAN	Awaiting position description by supervisory accountant in Branch of Past Reconciliation
	GS-318-05	SECRETARY	Awaiting position description by supervisory accountant in Branch of Past Reconciliation
	GS-625-0405	ACCOUNTING TECHNICIAN	Certificate of eligibles issued - Selection will be made by 6/30/95
	GS-625-0405	ACCOUNTING TECHNICIAN	Certificate of eligibles issued - Selection will be made by 6/30/95
	GS-625-0405	ACCOUNTING TECHNICIAN	Certificate of eligibles issued - Selection will be made by 6/30/95
	GS-625-0405	ACCOUNTING TECHNICIAN	Certificate of eligibles issued - Selection will be made by 6/30/95

New Tribes

Question 115: The FY 1996 budget request includes \$10,499,000 for newly acknowledged tribes with assistance in initiating federally-funded operations. This is an increase of approximately \$4.7 million, or about 80 percent, above the FY 1995 level. Within the requested funding, \$760,000 is requested for tribes pending recognition and a total of \$238,000 is requested for three area offices to provide the necessary administrative support for the newly recognized tribes. How many tribes are currently federally recognized?

Answer: There are a total of 554 federally recognized Indian tribes. Of this total, 326 tribes are located in the continental United States and 228 tribes are located in Alaska.

Question 116: Generally, to what extent do newly recognized tribes contract for services rather than have the BIA provide direct services?

Answer: When tribes are federally recognized and funded through the New Tribes line item, services are usually provided by the Bureau until the tribes are prepared to contract. The Aroostook Band of Micmac Indians in Maine, were recognized in 1991 and just this year began contracting. Generally, most tribes need to establish their tribal governments and develop the capability to contract, which often takes 2-3 years.

Question 117: What is the basis for the \$760,000 requested for tribes pending recognition?

Answer: The Bureau requested \$760,000 as partial start up funding for two tribes expected to be recognized before FY 1996: the Jena Band of Choctaw (Louisiana, 189 enrolled members), and the Snoqualmie Tribe (Washington, 313 members).

The final determination for the Jena Band has been published; they will be federally acknowledged in August, 1995. The Snoqualmie Tribe is experiencing some delays and it is not expected that they will be acknowledged before the Spring of 1996.

Question 118: Bills are currently pending before Congress which would extend Federal recognition to the Mowa Band of Choctaw Indians of Alabama and the Burt Lake Band of Ottawa and Chippewa Indians. Similar bills were introduced during the 103rd Congress. What is the current estimate of the number of members for each of these tribes? If recognition is extended to these two tribes, what is the estimate of the cost of the Federal services that the tribes will be eligible from the BIA?

Answer: The estimated enrollment for these two tribes is 4,000 members for the Mowa Band of Choctaw Indians and 700 members for the Burt Lake Band of Ottawa and Chippewa Indians.

If recognition is extended to these two tribes and the Bureau's funding methodology were used, it would require at least \$4 million for Mowa and \$700,000 for Burt Lake, based on enrollment. Additional amounts may be required if the tribes have a land base and/or are located in geographically remote areas. Funding should also be considered for the Bureau Area/Agency responsible for providing services to the new tribes.

Question 119: How many tribes have been recognized during FY 1991 through FY 1995? Please provide a list of the tribes recognized, including the date of recognition, the number of enrolled members and the amount of funding that has been provided for these new tribes during FY 1991 through FY 1995.

Answer: The following six petitioners have been recognized since 1991, including date of recognition, the number of enrolled members and the amount of funding that has been provided:

<u>Tribes</u>	<u>Date Recognized</u>	<u>Enrollment</u>	<u>Funding</u>
Aroostook Band- Of Micmacs	11/26/91	611	\$ 1,204,000
Mohegan Tribe	05/14/94	972	\$0 *
Ione Band of Miwuk Indians	05/14/94	80	\$0 *
Pokagon Potawatomi	09/21/94	3,200	\$0 *
Little Traverse	09/21/94	2,500	\$0 *
Little River	09/21/94	650	\$0 *

Other tribes which were recognized by the Congress:

Paskenta Tribe	11/02/94	179	\$0 *
United Auburn	10/31/94	74	\$0 *
Catawba	10/27/93	1,400	\$2,794,000

* Initial funding is proposed in the FY 1996 Budget.

Question 120: How many additional tribes are currently in the process of seeking recognition? What is the estimate of the additional funding that would be required if these additional tribes are recognized?

Answer: There are 125 petitions pending on the official list maintained by the Bureau. To date, approximately one-third of the petitioners who have completed the administrative process have been acknowledged. Based on this experience, it is estimated that approximately forty tribes would be recognized.

The approximate range of enrollment among the petitioners is 3-1,500. The cost is \$1,000 to \$1,700 per enrolled member depending on tribal size. However, the Lumbee Nation of North Carolina claims to have more than 44,000 members and the Houma Nation in Louisiana has almost 20,000 members.

Question 121: How is recognition of additional tribes factored into the process used to determine tribal shares of the Central and Area Offices?

Answer: At the time the tribal shares formulas were being developed, there were 554 federally-recognized tribes. It is not possible to estimate tribal shares of central office resources for tribes anticipated to be recognized in the future. In addition, it is not possible to predict when a newly recognized tribe will propose to contract for the operation Bureau programs.

The Bureau may need to consider requesting additional resources in future budget requests for the New Tribes budget line item for those tribes close to attaining federal recognition and those newly recognized tribes expected to propose entering self-determination contracts or self-governance compacts.

Question 122: In January, H.R. 671, the Indian Federal Recognition Administrative Procedures Act of 1995 was introduced. The Act would remove the Federal recognition process from the

BIA and provide for the establishment of an independent Commission on Indian Recognition. The Commission would be comprised of three members appointed by the President, with the advice and consent of the Senate, from individuals recommended by Indian tribes, who have backgrounds in Indian law or policy, anthropology, genealogy or history, and who are federal employees. What is the Administration's position on this bill? How would the process for granting federal recognition be changed by this bill? Would any of the requirements for recognition be modified? Will the provisions of the bill make it easier for Indian groups to obtain Federal recognition?

Answer: The Administration's position on the bill is under final development. The Bureau opposes many of the requirements of the bill, as it removes decision-making from the Bureau and adds a costly outside layer by establishing an independent commission. The process for federal recognition would be changed in several ways. For example, the bill requires the Commission to hold its preliminary hearing within 60 days of receipt of the acknowledgement petition. The Bureau believes that this short deadline does not allow for adequate research to evaluate the claims. The bill introduces the hearing setting to the process; the Bureau believes holding hearings could inhibit the flow of information.

The requirements for recognition are basically the same; the process could become more costly, possibly making recognition more difficult to achieve.

Contract Support

Question 123: The FY 1996 budget request includes \$109,626,000 million for contract support, which is an increase of approximately \$14 million, or about 15 percent, above the FY 1995 level of \$95.6 million for on-going contracts. The increase includes an increase of \$6.5 million plus the transfer into the base of \$7.5 million for new contracts funded through the Indian Self-Determination Fund in FY 1995. What is the estimate of the percentage of total need that will be provided with the FY 1995 funding level? Will the funds requested in FY 1996 provide for the anticipated needs for contract support?

Answer: The Bureau currently estimates a \$15 million shortfall in Contract Support Funds (CSF). Tribal contractors will receive approximately 87.5 percent of the FY 1995 CSF needs for ongoing and existing contracts.

The proposed increase of \$14 million is approximately equal to the shortfall anticipated this year. The funds requested in FY 1996 will come close to providing the anticipated needs for ongoing and existing contracts.

Question 124: With the transfer of contract support from Other Recurring Programs to Tribal Priority Allocations in FY 1996, will there be any change in the method for distributing these funds in FY 1996? What will be the basis for distributing contract support funds in FY 1997?

Answer: The method for distributing CSF has yet to be determined. The Bureau will seek tribal input at an Office of Tribal Services consultation with tribal leaders to be held in June 1995 in Albuquerque, New Mexico. Teams have been organized to develop options for the movement of funds into each tribe's Tribal Priority Allocations base. These options will be shared with tribes prior to the consultation. The final methodology will be formulated based on tribal comments.

The distribution of FY 1997 CSF is contingent upon the outcome of the national consultation meeting.

Question 125: As part of the Indian Self Determination and Education Assistance Act Amendments, *Public Law 103-413*, tribes were permitted to contract and compact for federal programs outside the Bureau of Indian Affairs. Will any of the funds requested in FY 1996 support contracts for non-BIA federal programs? What is the overall policy within the Interior Department for providing contract support costs for non-BIA programs contracted by the tribes?

Answer: The Bureau does not have sufficient funds nor the legislative authority to provide CSF for non-Bureau programs under contract. Department of Interior policy is for each Bureau to provide contract support funds for each of their programs operated by tribes.

Indian Self-Determination Fund

Question 126: The FY 1996 budget request includes \$7,000,000 to continue the Indian Self-Determination Fund to pay for new and expanded contracts. What level of contracting was supported through the FY 1995 appropriation for the Indian self-determination fund? What is the impact of the proposed rescission on the fund?

Answer: The direct program funding under contract totals \$10.8 million. Contract support funds in the amount of \$3.9 million have been distributed to date. Tribes have also requested \$2.5 million from the Indian Self Determination (ISD) Fund for initial start-up costs as provided under Subsection 106(a) of the Indian Self-Determination Act. Additional requests for funds are anticipated before the end of FY 1995.

The proposed rescission will adversely impact the tribes that contracted new and expanded programs because their applications for initial startup costs will be denied due to lack of funding. Any decrease in funding will delay contracting of Bureau programs.

Housing Improvement Program

Question 127: In FY 1995, the Housing Improvement Program was transferred from Other Recurring Programs to Tribal Priority Allocations in response to recommendations from the Joint Reorganization Task Force with the understanding that funds were to be distributed consistent with the methodology used in FY 1994. What is the basis for distribution of funds in FY 1996?

Answer: The method for distributing Housing Improvement Program (HIP) funding has yet to be determined. The Bureau will seek tribal input at an Office of Tribal Services consultation with tribal leaders to be held in June 1995 in Albuquerque, New Mexico. Teams have organized to develop options for the movement of funds into each tribe's Tribal Priority Allocations base. These options will be shared with tribes prior to the consultation. The final methodology will be formulated based on tribal comments.

Question 128: What is the current status of unobligated funds for the Housing Improvement Program? Are obligation rates expected to change any as a result of the transfer of the program to Tribal Priority Allocations?

Answer: There is currently unobligated approximately \$7.8 million in the Housing Improvement Program (HIP). This program is currently about 90 percent contracted.

At this point in time, the Bureau is not sure whether obligation rates will change as a result of the transfer. Currently, one of the problems that has created slow obligation rates is the small amount of funding each tribe is allocated. Another problem has been the time of year in which funds are appropriated. Appropriations are enacted in October of each year, the time when construction programs begin to slow due to inclement weather.

Funds might be obligated sooner if tribes chose to increase funding for the HIP by transferring funds from other TPA programs.

Road Maintenance

Question 129: In response to recommendations from the Joint Reorganization Task Force, the Road Maintenance program was transferred from Other Recurring Programs to Tribal Priority

Allocations in FY 1995. The Bureau was to develop a proposal for publication in the Federal Register on the allocation of Road Maintenance funds to tribal bases within Tribal Priority Allocations. What is the status of the development of that proposal? How will funds be distributed in FY 1996?

Answer: On January 9, 1995, a BIA Process Action Team met to develop a proposed distribution formula for Road Maintenance funds; to discuss the consultation process with the tribes; and to discuss drafting the Federal Register notice. The proposed formula, which was drafted by the Process Action Team, requires an in-depth analysis and evaluation of any negative impacts on tribes who may receive less money under the proposed allocation formula than under the current distribution method. The analysis is being done by the Process Action Team, the Bureau's Division of Transportation staff, and Area Office staff.

By July 31, 1995, the Bureau plans to publish a Federal Register notice of the tribes of the proposed formula and their responsibility to maintain the roads to proper Federal standards, in accordance with Federal Highway Trust Fund requirements. The comment period for the tribes will close on September 1, 1995. The proposed formula for allocation of Road Maintenance funds to tribal bases within Tribal Priority Allocations is expected to be published in the Federal Register by October 1, 1995. The Federal Register notice will also address tribal comments.

If all issues regarding the proposed formula and the liability issue are not resolved with the tribes, the current allocation method for distribution of the Road Maintenance funds will be used in FY 1996.

Question 130: How will BIA ensure the protection of Federal assets for which services are provided through the Road Maintenance program?

Answer: Title 23 U.S.C. 116 requires that roads constructed using Highway Trust Funds (HTF) are to be adequately maintained; without this assurance, approval by the Secretary of Transportation on future HTF projects may be withheld.

There are specific concerns with regard to the road maintenance program as defined within the Tribal Priority Allocations (TPA) budget activity. Currently, tribal *P.L. 93-638* contracts contain no assurances of compliance with the regulations (25 CFR Part 170), statutory requirements of Title 23 U.S.C. Section 116 and the May 1983 Memorandum of Agreement between the Federal Highway Administration and the Bureau. A recent opinion from the Department's Associate Solicitor indicates that self determination contracts or cooperative agreements are not subject to federal regulations. Without the ability to specify that road maintenance shall be performed in accordance with the aforementioned specifications, and that funding continue to be provided to the extent intended by Title 23 U.S.C., Department of Transportation funding for future HTF projects may be in jeopardy.

Small and Needy Tribes Distribution

Question 131: The FY 1996 budget request includes \$2 million for small and needy tribes, which is the same amount provided for this purpose by the Congress in FY 1995. According to the budget justifications (page 83), of the 550 federally recognized tribes, 450 tribes (82 percent) have 1,500 or fewer members. Approximately 268 of these 450 small tribes receive tribal priority allocations below the level considered necessary to maintain "an effective tribal government organization." The Joint Reorganization Task Force report recommended minimum funding levels of \$160,000 for tribes in the continental United States and \$200,000 for Alaska Natives. Of the 100 larger tribes with 1,500 or more members, what is the average allocation per member?

Answer: An analysis of average funding for the 100 tribes that are too large to be considered in the small and needy tribes category would take some time to compile. A sampling of a few tribes in different geographic locations is listed below.

<u>Tribe</u>	<u>Population*</u>	<u>TPA Funding**</u>	<u>\$ Per Member</u>
Navajo	207,303	\$46,135,600	\$223.00
Rosebud Sioux	13,050	\$ 6,036,200	\$463.00
Tohono O'odham	18,900	\$ 6,210,400	\$329.00
Choctaw Tribe	5,438	\$ 2,775,200	\$510.00

* Population figures were taken from the 1993 Indian Service Population and Labor Force Estimates report.

** TPA funding is from FY 1996 Budget Justifications.

This analysis includes only Tribal Priority Allocations funding, and does not consider the existence of a land base, infrastructure; the eligibility for other program funding, and other factors which exist for the benefit of tribal members.

Question 132: What would the \$160,000 for the continental United States and \$200,000 for Alaska provide on a per member basis?

Answer: Based on data collected by the Reorganization Task Force, the current funding for qualified small and needy tribes is approximately \$225 per member for tribes in the contiguous 48 states and \$177 per member for Alaska natives. If full funding were provided (\$23,000,000), the funding levels would increase to approximately \$360, and \$460, respectively.

Question 133: As used in the budget justifications, what is the definition of "an effective tribal government organization"? What is the criteria used to determine the effectiveness of a tribal government organization?

Answer: As defined by the Task Force, "an effective tribal government organization" is a tribe with stable and secure resources to recruit and retain the staff necessary for operating a tribal government. Many small tribes lack the necessary resources to support the basic governmental capacities needed to develop their respective communities.

Question 134: How many of the small tribes contract and receive some level of contract support funds? To what extent do contract support funds contribute to the maintenance of tribal government organizations?

Answer: The number of small tribes that contract and receive contract support funds (CSF) is unknown at this time. A list will be provided to the Committees once the information has been compiled. CSF supports programs that are contracted by tribes, but doesn't necessarily support tribal governments as such. If a tribe, for example, contracts Indian Child Welfare Act programs, CSF are provided to support overhead costs, but do not support the program delivery.

Child Protection and Family Violence Protection

Question 135: The Child Protection and Family Violence Act of 1990 authorized BIA to provide grants to tribes to develop a program to deal with the problem of child abuse and family violence on Indian reservations. The Bureau is seeking reauthorization of the legislation in 1995. In FY 1994, the Bureau was instructed to request funds when regulations are in place and implemented. The FY 1996 budget includes \$5,000,000 to provide 540 tribes with grants ranging from \$8,000 to \$32,000 to establish child protection or family violence protection programs. What is the status of the regulations and implementation of these programs? What activities will be funded with the proposed level of \$8,000 to \$32,000 per grant to be awarded to tribes? What portion of the grants will provide actual services and what portion will support administrative costs? Is the \$5 million requested in FY 1996 the expected ongoing level of the program?

Answer: Regulations have been prepared. Tribal consultation was conducted August 30, 1994, in Oklahoma City, followed by the redesign of the minimum standards of character and funding formula by tribal and Bureau personnel. The Solicitor's staff completed a first review of the regulations February 3, 1995. A revision was completed March 21, and submitted for review March 22, 1995. Revisions were made and the proposed regulations have been submitted to the Solicitor's office for final review.

Funds may be used for the purposes enumerated in Section 411 of the Indian Child Protection and Violence Prevention Act, including: child protective services programs and family violence prevention and treatment programs; multi disciplinary child abuse investigation and prosecution programs; and provision of shelter and related assistance to victims of family violence and their dependents. Funds may also be used to purchase equipment, to develop protocols and intergovernmental agreements, to coordinate services to victims and their families, to develop child protection codes and regulations, to establish community education programs, and to develop innovative and culturally relevant programs and projects that show promise of successfully preventing and treating family violence, child abuse, and child neglect.

The portion of the funds which will be used for actual service or administrative support cost will vary with each tribe. In using the funds, tribes have the option of choosing the best method for addressing Indian child protection and family violence prevention needs for their unique situations. The option they choose could include administrative cost to support staff positions.

The ongoing level for the program is at least \$5,000,000, however, it is the desire of the tribes and the Bureau that the amount authorized by the Act (\$30,000,000) would be appropriated to support communities and families. The need has increased for programs to assist victims of family violence, whether they be children, spouses, or elders.

Question 136: Are there other BIA programs which currently provide funding to address these same problems? If so, what are the programs and their respective funding levels in FY 1996? How are the purposes of these programs different from the purpose for which the \$5 million is requested for grants?

Answer: There are no other Bureau programs charged to assist victims of family violence. Bureau social services and Indian Child Welfare Act funds provide for shelter care for children; but funds are limited and do not encompass the range of activities enumerated in Section 410 of the Indian Child Protection and Family Violence Prevention Act.

Indian Tribal Justice Act

Question 137: In FY 1996, \$5,000,000 has been requested to begin implementation of the Indian Tribal Justice Act, *Public Law 103-176*. The Act establishes within the BIA, the Office of Tribal Justice Support and authorizes grants, technical assistance, and training to Indian tribes and tribal organizations for the development, enhancement, and continuing operation of the tribal justice systems. Will the establishment of the Office of Tribal Justice Support result in any additional staff at the Central Office? If so, please provide for the record a list of any new positions that will be created, including the job title and grade level for each position. Why is it necessary to create a separate office reporting to the Assistant Secretary for this purpose? What current programs presently provide funding for the same purposes as the \$5,000,000 requested in FY 1996?

Answer: The establishment of the Office of Tribal Justice Support is contingent upon the reorganization of the Bureau. Because of National Performance Review (NPR) downsizing, tribal shares and proposed budget reductions, funding for the establishment of a new office may not be available. In this event, the grants will be administered by the Branch of Judicial Services

The creation of the Office of Tribal Justice Support was predicated on tribal judiciaries testifying before the Congress of the need for additional resources for tribal courts. Tribes indicated that

justice systems are an integral part of tribal sovereign authority and that the Bureau should maintain the responsibility at an high enough level without creating a new bureaucracy to administer the justice systems.

Within the Tribal Priority Allocations, tribes have prioritized more than \$14.1 million to support personnel and related costs associated with operation of tribal courts. The \$5,000,000 to implement the Indian Tribal Justice Act will be used for the development, enhancement and operation of tribal justice systems. A tribal justice system encompasses the entire judicial branch, and employees thereof, of an Indian tribe, including traditional methods and forums of dispute resolution, lower courts, appellate courts, alternative dispute resolution systems, and circuit rider systems, established by inherent tribal authority whether or not they constitute a court of record.

Question 138: In FY 1996, no funding has been requested for special tribal courts. Instead, funding will be provided through the Tribal Justice Act implementation. How will funding be distributed for FY 1995 for special tribal courts?

Answer: Of the distribution for Special Tribal Courts in FY 1995, approximately \$917,000 will be awarded to assist tribes with planning and development of new judicial systems. Area Offices will receive and review applications from area tribes and award grants. Preference will be given to those tribes which have not previously received Special Tribal Court funds. About \$76,000 will be used to cover the cost of providing subscriptions to the Indian Law Reporter, \$35,000 will be awarded to the National American Indian Court Judges Association, \$35,000 to the National American Indian Court Clerks Association for training and professional certification and \$400,000 will be applied toward a survey to gauge the needs of tribal judiciaries and Courts of Indian Offenses.

Question 139: How will the \$5,000,000 requested for Tribal Justice Act implementation be used? How do the purposes of the Tribal Justice Act differ from the special tribal courts?

Answer: Under the Tribal Justice Act, the funds will be infused directly into tribal court budgets through a formula-driven process without going through Tribal Priority Allocations. This process will provide base funding for established tribal court for the life of the Act. Although tribes used the Special Tribal Court funds for similar activities as the tribal justice systems, Special Tribal Court funds were discretionary, non-recurring funds requiring continual application from the tribes with no guarantee of award from year to year.

Forest Plan

Question 140: In FY 1996, a total of \$15,806,000 is requested for forestry activities within non-recurring programs, including \$9,256,000 for forest development activities, \$1,554,000 for forest management inventories and plans, and \$4,996,000 for woodland management activities. To what extent are tribes included in any negotiations between federal agencies, such as the Bureau of Land Management or the Fish and Wildlife Service, and private landowners where there are tribal interests?

Answer: The President's Forest Plan provides many opportunities to ensure that Indian tribes from Washington, Oregon, and northern California are able to participate in the forest plan process.

For example, the plan ensures that Indian tribes are represented on the federally-chartered Intergovernmental Advisory Committee and on the 12 Provincial Advisory Committees. These 13 committees, which comply with the Federal Advisory Committee Act, bring together representatives from tribal, state and local governments, as well as various representatives of the public and private sectors, to directly advise federal decision makers on the implementation of the forest plan. Also, representatives of Indian tribes can meet individually with federal officials as provided for by the Unfunded Mandates Bill.

Tribes throughout the region are involved in helping the U.S. Fish and Wildlife Service develop section 4(d) of the Endangered Species Act, which is a flexible rule addressing proposed contributions of all non-federal lands, including Indian lands, to meet the conservation objectives for the northern spotted owl. The State of Oregon has asked, and is being allowed, to develop an alternative to the 4(d) rule, which is being drafted between the State of Oregon and private land owners. Some Oregon tribes are awaiting information from the State of Oregon's review of their own state's laws, and seeing how those laws may apply or relate to the Forest Plan.

In Washington, many tribes on both sides of the state are adopting forest management plans based on the concept of the President's Forest Plan. However, only one tribe west of the Cascade mountains has a reservation with a timber supply. Therefore, while consultation with these tribal governments is continuing in a positive manner, it has little effect on Indian reservations.

Federal agencies have performed extensive outreach and consultation efforts to help ensure that these and other avenues of involvement are implemented by Indian tribes to help advise the implementation of the plan. Even though these increased efforts have been made, some tribes feel they should have a "co-equal" status in the federal decision-making process, and some tribes have chosen not to participate with the advisory committees at this time.

Question 141: How do Forest Plan activities near Indian reservations impact on the forest resources on reservations?

Answer: Depending on the location, Forest Plan activities near Indian reservations have a positive effect, or none at all. Some federal lands adjacent to or within ceded areas are managed in ways that protect and enhance tribal resources, such as riparian reserve areas and late-successional reserve (old growth) areas.

Most tribal reservations in the three-state region are not affected by forest plan activities. Some tribes that have their own reservation forest plans have chosen to incorporate the scientific principles from the Forest Ecosystem Management Assessment Team report. Several other tribes in the region are involved with multi-agency watershed analysis and restoration projects.

One of many examples of positive cooperation between government and the tribes is the funding of a full-time tribal position by the Forest Service under the authority of the Intergovernmental Personnel Act. This tribal employee is part of the multi-agency watershed analysis team, creating an opportunity for the tribes to advise federal decision makers on the implementation of the plan.

Indian Gaming

Question 142: As gaming operations for some tribes have become extremely successful, there has been increasing pressure to reduce or eliminate funding for tribes who have become economically self-sufficient as a result of their gaming operations. As a result, the "Contract with America" proposed eliminating "subsidies" to tribes who have become economically self-sufficient through gaming. Has the Administration considered reducing payments or benefits to Indian tribes, tribal organizations or individuals to offset tribal income or individual employment income from treaty or otherwise protected activities, such as gambling or fishing?

Answer: The majority of Bureau funds go to non-gaming tribes. There are a few specific programs where funding is calculated based on need, such as welfare assistance, non-reservation ICWA, the institutional program for children with disabilities, early childhood development, and special higher education scholarships. However, the Bureau is not planning to reduce FY 1996 federal assistance to economically successful tribes.

Question 143: Has the Administration considered reducing assistance to a tribe or group of tribes to reflect the amount of money they and their members earn from owning and operating Class III gaming establishments?

Answer: The income, employment, and educational attainment of the one million American Indians living on or near reservations falls below the general population. Tribes depend on the Bureau for funding for a broad spectrum of critical programs, with economically self sufficient tribes falling in the minority. The Bureau does not want to punish tribes for their recent economic success in gaming ventures. Many of these tribes are just starting to develop their communities and still have a long way to go to reach a standard of living similar to that enjoyed by most non-Indians. These tribes have not had the benefit of the infrastructure found in non-Indian communities and are using gaming revenues for economic development projects and improving the quality of education, roads, and housing on their reservations.

Question 144: Is it possible to determine a specific formula for reducing funding to offset income derived from protected activities? If not, why not? What legal or legislative barriers exist currently which would prohibit making such a reduction in federal payments?

Answer: It is not currently possible to determine a specific formula for reducing funding to offset income derived from protected activities because tribes are not required to report their income from these activities to the Bureau.

The Bureau is required to continue to provide those programs that fulfill the Secretary's statutory, trust, or treaty obligations.

Question 145: How many tribes currently operate Class III gaming establishments? How many of these establishments provide per capita distributions to tribal members? What is the range of the payments?

Answer: There are 122 tribes with approved tribal state compacts. Not all tribes with compacts are currently operating class III gaming. The Indian Gaming Management Staff has a list of 118 casinos operated by 97 tribes. We have knowledge of only 23 tribes with approved tribal revenue allocation plans. Tribes are not required to provide the BIA with the per capita payment amounts.

Question 146: The Indian Gaming Regulatory Act requires tribes to use a portion of their income from gaming for infrastructure improvement and economic development. Does the BIA have any data on the extent to which tribes are reinvesting their gaming income on infrastructure improvement and economic development activities? If not, why not? What would be necessary in order for the BIA to obtain such information?

Answer: The act limits the uses for a tribe's net gaming revenues to the following: to fund tribal government operations, to provide for the general welfare of the tribe, to promote tribal economic development, to donate to charitable organizations, and to help fund local governmental agencies.

Information obtained from tribes indicates that gaming revenues are used for the following purposes: education, housing, roads, health care, economic development, and law enforcement.

Education Construction

Question 147: The FY 1996 budget request includes \$69,173,000 for education construction, which represents an increase of \$21,875,000 above the FY 1995 level of funding. The request for new school construction totals \$35,000,000, which represents an increase of \$30,509,000 above the fiscal year 1995 level. Please provide for the record the status of each of the schools currently on the priority list, including the following information: the current estimated total cost of the project (including planning and design costs); funding requested in FY 1996 and funding required past FY 1996; expected date of completion; expected date when the school will be operational; expected enrollment compared with current enrollment of facilities being replaced; ability to further phase the project; and the funding mechanism (for example, contract or grant) for the project. When are the schools on the priority list expected to be completed?

When does the Bureau expect to be able to add additional schools to the priority list? What is the status of the Chief Leschi school?

Answer: The status of each of the schools currently on the priority list is provided on the following page. However, schools for which construction has not been funded do not have estimated construction completion dates. Generally, the expected date when a school will be operational is two to three months following the construction completion date. The completion date of the schools on the priority list are tied to appropriations. If future year construction funding will not support these schedules, the Bureau will adjust each school's schedule accordingly to prevent shelving designs whose capacity gets outdated each year construction is delayed.

NEW SCHOOL CONSTRUCTION PROJECT ESTIMATES
(in Thousands of Dollars)

Ranked Priority List	SCHOOL	Est. Plan/ Design Cost	Est. Constr. Cost	Total Est. Cost	Amount Funded Through FY 1995	Amount Requested FY 1996	Balance Needed to Complete	Est. Constr. Completion Date	Current Enrollment FY 94/95	Designed for FY 1996 Projected Enrollment	Comments
1	Pinon Dormitory	1,283	20,653	22,136	22,136	0	0	12/96	186 Residential 50 Day	425	P.L. 93-638 contract
2	Eastern Cheyenne River	533	10,478	11,011	11,011	0	0	09/96	91	210	BIA
3	Rock Point Community	498	11,012	11,508	11,508	0	0	04/95	453	285	P.L. 93-638 **/ contract
4	Merry Farms High	1,034	13,924	14,958	1,458	13,500	0	02/96	233 Residential 421 Day	558	P.L. 93-638 contract
5	Tucker Day	576	7,368	7,942	7,942	0	0	09/94	104	310	P.L. 93-638 contract
6	Shoshone-Bannock	887	12,259	13,116	13,116	0	0	05/98	134	310	BIA
7	Standing Pine	440	7,267	7,707	7,707	0	0	12/95	60	180	P.L. 93-638 contract
8	Chief Leechi	1,870	26,020	27,870	6,370	21,500	0	09/97	435	1,027	P.L. 100-287 Grant
9	Seba Dakota Boarding	1,300	16,249	17,549	1,300	0	16,249	Not scheduled	181	354 */	P.L. 93-638 contract
10	Sic and Fox	578	9,884	10,460	578	0	9,884	Not scheduled	86	190	P.L. 93-638 contract
11	Pyramid Lake High	431	8,940	9,371	431	0	8,940	Not scheduled	30	250	P.L. 93-638 contract
12	Shiprock Alternative	1,646	20,017	21,663	1,646	0	20,017	Not scheduled	166 high school 123 minor/garden	To be deter- mined	Planning - P.L. 93-638 Design/Constr. - Grant
13	Tube City Boarding	2,150	28,546	30,696	2,150	0	28,546	Not scheduled	810 day/ 263 residential	To be deter- mined	P.L. 93-638 contract
14	Fond Du Lac Offway	1,342	14,807	16,149	1,342	0	14,807	Not scheduled	296	To be deter- mined	P.L. 100-287 Grant
15	Second Mesa Elem.	729	9,907	10,636	729	0	9,907	Not scheduled	266	To be deter- mined	Planning - BIA, Design/ Constr. - 638 contract
16	Zia Day	335	4,649	4,984	335	0	4,649	Not scheduled	94	To be deter- mined	P.L. 93-638 contract
	TOTAL	15,598	222,158	237,756	89,737	35,003	112,099				

*/ Figure to be adjusted upward based on the two grade levels added

**/ The 24/95 enrollment of 453 students includes grades K-12. This project will provide for the replacement of the 7-12 grades portion of the existing facility. The facility is designed for an FY 1996 proposed enrollment of 265 students.

The ability to phase projects varies with each school. If phasing is necessary, completion of the site work and utility work is done in Phase One. However, phasing must be included as part of the initial design plan in order to avoid later delays and additional cost to redesign facilities for a phased construction. Generally, the Bureau does not recommend using phased construction of single buildings due to liability considerations and additional costs associated with the use of more than one contractor. When schools with campus layouts are provided, phasing of entire buildings may be possible.

The Bureau expects to "be able to" add additional schools to the priority list once the new priority rating system for school construction is finalized, followed by a reopening of the application process for new school construction, and an evaluation and validation of the applications to be added to the priority list. Opening the application process too soon only gives false hope to tribes for results. Adding to the list too soon has the major risk and cost of having to revalidate the applications to prevent using outdated demographic data.

Design work on Chief Leschi was completed in April 1995. Phase I, funded in FY 1995, includes sitework, utilities and foundation work. This work will be completed in September, 1995. Funding to complete the school construction is included in the FY 1996 budget request.

Question 148: In FY 1995, the Bureau was given temporary authority to fund education construction projects in excess of \$100,000 through the use of grants. The FY 1996 budget request deletes the language which provided authority for such grants in FY 1995. According to the budget justifications (page 220), the Bureau intends to consult with tribes and the appropriate committees of Congress for any necessary statutory amendments to establish permanent implementation. How many grants were awarded in FY 1995 as a result of the language? Based on the Bureau's experience with these grants, are there modifications to the language included for FY 1995 that the Bureau would support? What have been the results of the consultations that the Bureau has had with the tribes?

Answer: For FY 1995, Twelve grants have been awarded to date.

Based on experience with the grants and tribal consultation, the Department will be proposing permanent remedial legislation to rectify certain deficiencies in the statute to provide a *Public Law 100-297* construction grant process for projects in excess of \$100,000. Until such time as legislation is enacted, the Department requests that Congress include continue the language in the FY 1996 Interior Appropriations Act.

With respect to tribal consultation, most comments were related to the schedule of payments for grants and requirements for tribes to follow Federal, Tribal or State safety standards and codes. Some additional tribal consultation is necessary.

The Department plans on sending a draft of the legislative proposal to all Federally-recognized tribes, Bureau funded schools and their school boards, all Bureau line-officers, and certain other parties who have expressed an interest in Indian education programs in the Bureau. An opportunity will be afforded for them to provide written comments, suggestions or changes on the legislative proposal before submitting to the appropriate Committees of Congress.

Question 149: What discussions has the Bureau had with the authorizing committees and does the Bureau expect to have any legislation introduced for permanent implementation of the grants? Are there any limitations as to the size and scope of grants awarded for new school or facilities improvement and repair construction? What provisions are there for cost overruns with the grants? Are contract support funds provided with the grants? What is the basis for determining the contract support costs?

Answer: Although the Bureau has not had discussions with the authorizing committees, we do plan on proposing legislation to provide a permanent *Public Law 100-297* construction grant process for projects in excess of \$100,000.

There are no limitations to the size and scope of grants awarded for new school or facilities improvement and repair construction.

Each grant contains the following language: "The Grant Officer may or may not approve the grant amendment or request additional funds. Approval of such changes and request must be based on consistency with the scope or nature of the project and the availability of appropriated funds." There is no obligation to fund cost overruns if appropriated funds are not available.

Contract support funds are provided with the grants. The Office of Inspector General's audited or negotiated indirect cost rate is used as the basis for determining the contract support funds (indirect costs). The 1994 amendments to the Education laws specifically excludes construction from use of administrative cost grants.

Question 150: The FY 1996 budget request includes \$31,173,000 for education facilities improvement and repair projects, which is a decrease of \$7,642,000 from the FY 1995 level. What is the basis for the reduction in funding?

Answer: The entire FY 1996 BIA facilities construction budget and the relative amounts within the major accounts for Education Construction, Public Safety and Justice, and General Administration was formulated around various considerations. These considerations include the following: Existing unobligated balance from previous appropriations; the staff resources to accomplish workload; the need for additional funding to complete several projects; and the readiness of a project to be obligated in FY 1996. Specifically, within the Education Construction account, the FY 1996 budget request included \$31,173,000 for FI&R projects, a decrease of \$7,642,000 from the FY 1995 level; but included \$35,000,000 for New School Construction projects, an increase of \$30,509,000 from the FY 1995 level. This represents a reasonable estimate of projects that can be obligated in FY 1996.

Overall, Education Construction is increased from 1995. The reduction in Facilities improvement and repair (FI&R) is more than offset by the increase in New School Construction. Design of new schools has progressed to the point that this activity should be increased to allow for 1996 construction of new schools. Overall, the FY 1996 budget only requests funds for projects for which significant design efforts have either been completed or will be completed prior FY 1996. The level of funds requested in FY 1996 for FI & R, along with the current unobligated balance, is sufficient for BIA to continue to make progress on these projects in FY 1996.

Question 151: What are the causes of the delays in obligating the funds for facilities and improvement projects?

Answer: Currently, construction projects often take three to four years to adequately plan, design and construct. This is too long and efforts are underway to streamline the process. While every effort is being made to obligate funds for school repairs and construction as quickly as possible, unavoidable delays do occur. The limited staff in the program office, the increased level of funding for construction in the past few years, the need to coordinate information from contractors, and increased technical assistance requests from tribes to accomplish *Public Law 93-638* contracts or *Public Law 100-297* grants have impacted the ability of the staff to accomplish more work in a timely fashion. Due to the nature of the work there will always be some unobligated funds in construction accounts. FY 1996 and future budget requests for construction projects will only include projects for which significant design efforts have either been completed, or will be completed prior to the year in which funds are appropriated for construction. This would minimize the occurrence of large unobligated balances. The funds requested in FI&R represent a reasonable estimate of projects that can be obligated in FY 1996.

Question 152: Will the use of grants for these projects reduce the delays that the Bureau is currently experiencing?

Answer: The use of grants for any project can reduce the delays in obligating the funds for a given project because the funds are considered obligated when the funding is granted. The length of time to execute the project through completion to provide the needed services will be dependent on the Grantee's experience and abilities to expedite the project through the various phases to completion. Under the grant concept, the Grantee has maximum control for implementation with reduced Bureau involvement.

Fire Protection

Question 153: The FY 1996 budget request includes \$4,800,000 for fire protection in the construction account and \$200,000 for a fire marshal in the central office. What is the total estimated cost for bringing the Bureau's facilities to current fire standards and codes? When does the Bureau expect the effort to be complete? Please describe the specific activities that will be funded with the total of \$5 million that has been requested for fire protection activities? What ongoing level of funding will be necessary to maintain fire protection, once the facilities are brought to current fire standards and codes? Will these funds be provided through the construction account?

Answer: Total cost estimates to bring all Bureau facilities up to fire standard codes are currently not available. Because this is a new program, the data specific to this endeavor is currently not available. Efforts are underway to acquire program information which will serve as a baseline to support current and future budget requests.

Initial work activities have been focused on dormitories. It is currently estimated that between \$14-18 million is required to retrofit dormitories only for fire sprinklers and alarms. The effort of addressing dormitory retrofit is based on the prioritization of current need. Currently, the BIA, with assistance from the Bureau of Reclamation, is categorizing and prioritizing the 170 dormitories currently identified in its inventory. This listing will serve as a basis for funding requests for the future years.

Also, the interim Fire Chief is conducting an inventory of firefighting equipment requirements by location. This inventory should be completed by the end of July 1995.

Of the \$5 million requested, \$200,000 will be utilized to fund the Bureau's Fire Marshall, related fire training, and manuals. The remaining \$4.8 million will be used as follows: The \$2,800,000 that has been proposed for reprogramming will be repaid; and \$2,000,000 will be used to plan, design, and install fire protection systems in the dormitories.

Once funding requirements have been determined, the appropriate appropriation and activity will be identified to fund these costs. Some costs will be ongoing such as operations and maintenance, others will be one time costs for equipment. A survey of location equipment needs is currently being conducted. Final reports should be available by the end of July 1995. Additional concerns center on the individual needs of each location relating to manpower, training, equipment and associated issues relating to the coordination of fire activities with local tribes and government entities. Based on this information, future funding requirements will be determined and appropriation and activity will be identified.

Question 154: The Bureau has requested reprogramming \$2.8 million from three facilities improvement and repair projects to accelerate implementation of fire protection measures requested in the FY 1996 budget request. Who is currently responsible for the acquisition of the equipment which are proposed to be purchased with the reprogrammed funds?

Answer: The person responsible for the acquisition of the fire equipment and the implementation of the fire protection program for FY 1995 is the Interim BIA Fire Chief.

Question 155: Why has fire protection become such a problem?

Answer: Until recently, the BIA was operating with no official comprehensive policy for structural fire protection. The lack of such a policy or program presented severe risk and liability to the BIA for injury, loss of life, property loss, tort claims, and Workmen's Compensation claims. In February 1995, the Assistant Secretary - Indian Affairs approved the recommendations for a BIA Fire Protection Program. The absence of an official comprehensive policy became evident in 1994 when the BIA and the Office of Construction Management posed questions relating to fire protection, prevention and suppression in BIA facilities.

Safety of Dams

Question 156: The FY 1996 budget request includes \$30,019,000 for safety of dams, an increase of \$12 million above the current level. According to the budget justifications (page 250), the requested funding will begin to put Bureau dams on parity with Department of Interior safety of dams programs, including the National Park Service and Fish and Wildlife Service. Of the top 50 Department of Interior high hazard dams, 26 are on Indian reservations. With the requested funding, how many dams remain on the Department's list of the top 50 high hazard dams? How many dams remain to be repaired? At the current level of funding (\$18 million), how long will it take to repair all of the dams? How many additional dams will be repaired with the \$12 million in additional funds that have been requested?

Answer: At the FY 1996 requested funding level, 23 of the 26 BIA dams discussed in the FY 1996 budget will remain on the Department of the Interior's list of the top 50 high hazard dams. Of the 12 high hazard dams for which funds are requested in FY 1996, three (3) dams (Ganado Dam, Black Rock Dam, and McDonald Dam) will be completed and removed from the list. The remaining nine (9) will require additional funding to complete repairs and will remain on the list. To correct identified deficiencies in a dam requires several steps or phases, starting with the hazard classification, through the safety evaluation report, verification analysis, conceptual design, final design, and ending with actual construction. Since each of these steps requires from six (6) months to more than a year to complete, funding is requested separately at each step for each dam.

Eighty-six (86) of the 94 BIA dams, which are on the Department's list of 500 hazardous dams, remain to be repaired. At the \$18 million current (FY 1995) funding level, the Bureau estimates that it will take 20-25 years to complete the repair process on all BIA high hazard dams. If the FY 1996 request level is continued for ten years, about 75 percent of the high risk dams will be removed from the high risk category.

The additional \$12 million requested for FY 1996 will provide funding for conceptual or final designs for seven (7) dams (Kyle, Parmelee, and Indian Scout Dams in South Dakota; Tabor and Lower Dry Fork Dams in Montana; Equalizer Dam in Idaho; and Canyon Diablo Dam in Arizona) and for the initiation of construction of Weber Dam in Nevada and Dulce Dam in New Mexico.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

New School Construction

New school construction is proceeding at an unacceptably slow pace. In order to insure a timely expenditure of appropriated school construction funds, a mechanism is needed to allow projects whose design has been reviewed and accepted by the Bureau of Indian Affairs to by-pass projects which are stalled in the design phase.

Question 1a: Can the Bureau recommend a solution to this problem or propose a mechanism?

Answer: Progress was initially slow in FY 1992 due to the start up of planning and design activities for 11 schools. This was expanded to 16 schools in FY 1993, with relatively the same staff size. In a period of only four years, the FY 1996 budget includes funding for the eighth

ranked school. It is estimated that by the end of FY 1995 two schools will be completed and opened, and four will be under construction.

The BIA's Facilities Management and Construction Center (FMCC) currently selects the new school construction projects for inclusion in the budget request. The selections are based on the project's standing and scheduled design completion dates in May of each year, the start of the internal budget process. This process allows the selected project(s) to bypass projects higher on the priority list which are stalled in the design phase as of May of each year. In addition, if funds are available, the reprogramming procedures can be used when schedules have changed.

Question 1b: How much money is needed to complete the schools which remain on the new school construction priority list?

Answer: Based on current data, an estimated minimum \$148 million is needed to complete the priority list. Estimates of the funding needed to complete each school which remains on the new school construction priority list are provided in the following table:

New School Construction Project Estimates

School	Current Est. Const. Cost	Comment
Many Farms High School	\$13,500,000	Estimate based on 40% design stage.
Chief Leschi	\$21,500,000	Estimate based on 70% design stage.
Seba Dalkai Boarding School	\$16,249,000	Estimate based on K-6 facility only.
Sac and Fox School	\$9,884,000	Estimate based on 20% design stage.
Pyramid Lake High School	\$8,940,000	Estimate based on 70% design stage.
Shiprock Alternative School	\$20,017,000	Estimate based on pre-planning data only.
Tuba City Boarding School	\$28,546,000	Estimate based on pre-planning data only.
Fond Du Lac Ojibway School	\$14,807,000	Estimate based on pre-planning data only.
Second Mesa Elementary School	\$9,907,000	Estimate based on pre-planning data only.
Zia Day School	\$4,649,000	Estimate based on pre-planning data only.
Total	\$147,999,000	

Question 1c: When does the Bureau intend to publish the new priority rating system for school construction?

Answer: On October 13, 1993, a proposed rule was published in the Federal Register to govern the priority ranking for new school construction. Since funds have not been appropriated for several of the schools on the existing priority list, we have delayed action to publish a final rule. This delay will afford us an opportunity to evaluate the proposed rule in light of the changes that are occurring within the Bureau of Indian Affairs. We want to ensure that the rule-making action provides a streamlined process that meets the needs of our customers.

Question 1d: When does the Bureau anticipate reopening the application process for new school construction so that other schools will have an opportunity to compete?

Answer: Until a final rule for a streamlined process is published, an opportunity will not be provided for schools to compete for new school construction. We do not anticipate publishing a rule-making action until sometime after September 1996.

Question 1e: Has the Department examined alternative possibilities for school construction funding? Can the Department provide some suggested alternatives?

Answer: In an effort to identify options, the Department conducted a study on "Alternative Funding." The report titled "A Report on Alternative Funding for Construction of Indian Schools" was provided to the Appropriations Committee in July 1994.

Although numerous options were reviewed, the report indicated that without changes in current legislation, including changes to the method of scoring budget outlays there currently were few options other than significant Federal or Non-Federal capital investments.

Detention Facilities Construction

Question 2a: When does the Bureau of Indian Affairs have the Choctaw Detention Adult and Juvenile Detention Facility scheduled for construction?

Answer: Funding for Ute Mountain Ute which is ranked fifth on the combined Law Enforcement Facilities Priority list is requested in FY 1996. The Choctaw Adult and Juvenile Detention Facility is ranked number 12 on the list. This facility has not been scheduled for construction at this time. Based on historical appropriation levels and the number of detention facilities on the list ahead of the Choctaw project, it is estimated that the earliest this facility could be funded is FY 2001, even if the FY 1996 request is funded.

Question 2b: How much money is needed to complete the detention facilities which remain on the detention priority list?

Answer: An estimated minimum \$104 million is required to complete the detention facilities on the priority list from priority number 5 through priority number 13. The estimate does not include funds for the Choctaw facility since sufficient data has not been developed upon which to base an estimate. Estimates of the funding needed to complete each detention facility are provided in the following table:

Detention Center Construction Cost

Detention Center	Current Est. Const. Cost	Comment
Ute Mountain Ute	\$8,901,000	Estimate based on pre-design data only.
Gila River	\$16,910,000	Estimate based on completion of 20% design stage only.
Salt River	\$20,150,000	Estimate based on completion of 20% design stage only.
Colville	\$20,054,000	Estimate based on 20% design data only.
Crownpoint	\$6,505,000	Estimate based on planning data only.
Kayenta	\$4,796,000	Estimate based on pre-design data only.
Shiprock	\$8,424,000	Estimate based on planning data only.
Choctaw	Not Available	Estimate to be determined.
Tohono O'odham	\$18,200,000	Estimate is based on pre-planning data only.
Total	\$103,940,000	

QUESTIONS SUBMITTED BY SENATOR PETE DOMENICI

Office of Indian Women and Families

Assistant Secretary Deer, I am sorry to have to remind you a second time in a public hearing about the lack of a response from your office to my repeated requests for your position on S. 346, my legislation to establish an Office of Indian Women and Families in the BIA.

Please let me know your department's position in the near future. It is my intention to amend any legislation reorganizing the BIA to include S. 346.

Answer: The Bureau does not support the establishment of an Office of Indian Women Families at this time. In the present fiscal environment, the BIA is focused on down-sizing and streamlining to increase the efficiency of its operations, while at the same time complying with the provisions of the amendments to the Indian Self Determination Act. To this end, the Bureau is: not filling vacant positions, consolidating functions, relocating offices, and meeting some NPR objectives. For these reasons, the Bureau cannot advocate the establishment of a new office within the Department at this time of dynamic change.

Navajo Area School Board Association

Please explain to me the logic you are using to increase self-governance funds at the expense of self-determination contracts such as the one held by the Navajo Area School Board Association (NASBA). It is my understanding that your efforts to combine the Tribal Priority Allocations (TPA), contract support, and direct services will have the effect of blurring the lines sufficiently so that programs like NASBA will be practically eliminated when tribes determine their own priorities.

I also understand that this process has already harmed the NASBA program by subjecting it to the same 75% levels as other programs. This means a loss of \$52,700 in a total budget of \$210,000 for NASBA. Please explain this action to me.

Answer: The President's Budget requested an increase of \$2,440,000 over the FY 1995 enacted level for Self-Governance Grants in order to provide programmatic shortfall funds to the 20 additional tribes that will enter tribal self-governance in 1996. These funds are necessary to provide self-governance tribes with all or a portion of the negotiated compact amounts, in the event that reprogramming of compact funds would reduce services to other tribes. The increase was also necessary to provide planning and negotiation grants for tribes to prepare to negotiate 1997 agreements. This increase is consistent with Secretary's high prioritization of tribal self-governance, which allows tribes to assume programmatic responsibility and have the flexibility to reallocate funds and redesign programs in line with the needs of their tribal members.

All tribes that have self-governance agreements or *P.L. 93-638* contracts are eligible for contract support funds. In FY 1995, the initial distribution of contract support funds represented 75 percent of the estimated need. An additional distribution of contract support funds for FY 1995 will be made during the month of July. For the past two years, appropriations language has prevented the Bureau from reprogramming funds from other Bureau sources to meet the shortfall in contract support. As a result, all those eligible to receive contract support have experienced a deficiency compared to their need.

In the FY 1996 President's Budget, contract support is being transferred to Tribal Priority Allocations (TPA). A consultation meeting was held with tribal representatives in Albuquerque, New Mexico in June to discuss proposed formulas for allocating contract support funds to tribal base amounts in TPA. A formula selection will be made in several months. Once contract support is made a part of the TPA base, tribes will have the flexibility to determine what portion of their TPA resources will be devoted to direct program costs and what portion devoted to indirect costs.

Loan Programs for Economic Development

At a time when federal resources are becoming more scarce, I am disappointed in your decision to reduce overall loan programs from \$14.116 million for the last two years, to a new low of \$11.650 million for FY 1996. Please explain your reasoning for making it more difficult for tribes to obtain loan guarantees and other loans to enhance private sector activity on Indian reservations.

Answer: On the contrary, the BIA will be able to provide over 20% more loans for economic development on Indian reservations in FY 96 than in FY 95. In FY 95, \$8,784 in appropriated subsidy supports \$46.9 million in loan guarantees. In FY 96 the same \$8,784 in appropriated subsidy will support \$70.1 million in loan guarantees. The increase is as a result of improved program management.

Appropriated subsidy for the Direct Loan Program was not requested in the FY 96 budget request since a greater reliance is being placed on the Loan Guaranty Program.

		Subsidy	Loans
FY 1995	Guaranteed Loans	\$8,784	\$46,900,000
	Direct Loans	\$2,484	\$10,890,000
	Total	\$11,268	\$57,790,000
FY 1996	Guaranteed Loans	\$8,784	\$70,100,000
	Direct Loans	0	0
	Total	\$8,784	\$70,100,000

SUBCOMMITTEE RECESS

Senator BENNETT. OK, thank you. The subcommittee will stand in recess until 1 p.m., when we will hear testimony from the Indian Health Service.

[Whereupon, at 12:33 p.m., Thursday, May 11, the subcommittee was recessed, to reconvene at 1 p.m., the same day.]

(AFTERNOON SESSION, 1:09 P.M., THURSDAY, MAY 11, 1995)

The subcommittee reconvened at 1:09 p.m., in room SD-116, Dirksen Senate Office Building, Hon. Robert F. Bennett presiding.
Present: Senators Bennett and Stevens.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

PUBLIC HEALTH SERVICE

INDIAN HEALTH SERVICE

STATEMENT OF MICHAEL H. TRUJILLO, M.D., M.P.H., ASSISTANT SURGEON GENERAL, DIRECTOR, INDIAN HEALTH SERVICE

ACCOMPANIED BY:

MICHAEL E. LINCOLN, DEPUTY DIRECTOR

PHILLIP L. SMITH, M.D., ASSOCIATE DIRECTOR, OFFICE OF HEALTH PROGRAMS

GARY J. HARTZ, ACTING ASSOCIATE DIRECTOR, OFFICE OF ENVIRONMENTAL HEALTH AND ENGINEERING

REUBEN T. HOWARD, ACTING DIRECTOR, OFFICE OF TRIBAL SELF-GOVERNANCE

DENNIS P. WILLIAMS, DEPUTY ASSISTANT SECRETARY FOR BUDGET

BUDGET REQUEST

Senator BENNETT. The subcommittee will come to order.

This afternoon we will hear testimony in support of the Indian Health Service's fiscal year 1996 budget request.

Testifying this afternoon will be Dr. Michael Trujillo, Assistant Surgeon General and Director of the Indian Health Service.

The administration is requesting \$2,059,022,000 for IHS programs in fiscal year 1996. This represents a 4.9-percent increase over fiscal year 1995.

And it is a dramatic increase over last year's budget request, in which IHS was cannibalized by the administration to fund other priorities within the Department of Health and Human Services, as well as other priorities in the Interior appropriations bill such as energy conservation and natural resource protection. The fiscal year 1996 appropriations process will be difficult enough for everyone without facing the challenge of trying to make up for such shortfalls.

I am pleased to see the administration is not again relying on wildly optimistic estimates of third-party insurance collections to fund IHS programs. I only hope that the administration will not use this committee's displeasure with past estimates as a reason to reduce efforts to increase collections.

Dr. Trujillo, if you will, come forward. We will be anxious to hear what progress you are making in this arena.

The budget request is a status quo budget which should allow IHS to maintain its current level of service. Unfortunately, this is not a year for the status quo.

The Budget Committee may well protect IHS from significant cuts, but this subcommittee's 602(b) allocation may well be below last year's. All agencies funded in the Interior bill will have to share the pain.

I hope you will work with the committee throughout the process so that if cuts are made, they are made in the most judicious manner.

We look forward to your testimony and appreciate your taking the time to be here. Your full statement will be made a part of the record. So please feel free to summarize your testimony and then we will get to the questions.

SUMMARY STATEMENT OF DR. MICHAEL TRUJILLO

Dr. TRUJILLO. Thank you, Senator. It is a pleasure to be here this afternoon to present the administration's budget. I would like to introduce several of my management team to you.

Senator BENNETT. Please do.

INTRODUCTION OF ASSOCIATES

Dr. TRUJILLO. On my right is Mr. Michel Lincoln, who is the Deputy Director for the Indian Health Service; Mr. Gary Hartz, who is Acting Associate Director of our Office of Environmental Health and Engineering.

And, on my left, is Mr. Reuben Howard, who is Acting Director of our Office of Self-Governance. On my far left is Dr. Phillip Smith, who is the Chief Medical Officer for the Indian Health Service and also the Director of the Office of Health Programs.

I will, as you mentioned, submit my formal written statement for the record and would like to summarize my comments and also add a few professional and personal comments from some recent events that happened to me and my family.

For your information, I met Mr. Rod Beatty in Utah and have worked with the Utah State Health Program. I was in Salt Lake City last year for the Western Indian Health Conference, and will be going there this year. I just recently met with staff in Senator Hatch's office on some issues. Incidentally, I used to live in Brigham City.

Senator BENNETT. All right.

Dr. TRUJILLO. And I still have some friends in Utah.

NEW ERA OF HEALTH CARE

This past year, as the new Director of the Indian Health Service, I have been preparing the agency to enter a new era of health care while strengthening the partnership with tribes and Indian organizations to determine how those services within the Indian Health Service and Indian Health Program can be delivered more effectively and efficiently with local input.

The Indian Health Service is committed, and I, as the new Director, to carrying out the responsibilities of providing a quality health service to American Indians and Alaska Natives as established and

confirmed in treaty statutes, Executive orders and, certainly, congressional intent.

I am, as is the agency, supportive of the Indian self-determination process that is based upon the relationship between the Federal Government and tribal governments as sovereign nations.

Because of this relationship, there is an increasing number of tribes assuming full responsibility of managing and delivering their own health care services through self-governance and contract processes.

At present, over one-third of the Indian Health Service's budget goes directly to tribes. This year and in the ensuing years, there will be an increasing amount of that budget going directly to tribes as management and programs are taken increasingly over by tribes.

We have been in the process of self-governance for approximately 18 months, and at the present time approximately one-half of all tribes that we serve are within this program of self-governance. That is approximately one-quarter of the IHS eligible population that we serve.

In the self-determination process, tribes also have the option to choose whether they wish to remain within the Federal Government services and continue to have those services provided to their people.

Therefore, as an agency, but certainly as the Director of the Indian Health Service, there is a necessity for a prudent balance and fair approach to assure that there is no adverse impact on any tribe, no matter what their choice may be—whether it be compacting, whether it be contracting, or whether they choose to remain to have direct services from the Federal program.

I believe there must be an appropriate management and health care infrastructure to provide those services to those tribes who do choose to obtain those services from the Federal Government.

As you well know, the Indian Health Service is certainly facing ever-increasing costs. We have a growing population to serve, and there are new tribes that are added and being recognized at the present time.

We provide health care in rural isolated areas where there is no health care infrastructure or where there is not a health care system available.

The Indian urban programs that we fund are facing increasing costs, competition, a growing demand for services and a rapidly changing health care financing system that sometimes is not cognizant of the needs of Indian people residing in metropolitan areas.

I believe our diverse cultures, our families' traditions, religions, and values necessitate the delivery of services in a culturally sensitive and, certainly, a respectful manner.

We hope to strengthen the quality of those services delivered through the tribal urban and the Indian Health Service programs. They must be appropriate and have adequate resources for the people that we all serve.

PAST ACCOMPLISHMENTS

I believe there has been significant strides in improving the health care status of Indian people. The bipartisan congressional support has significantly contributed to this improvement.

As a result, there have been major accomplishments in the environmental, the sanitation, public health, and community health programs. There has been improved access to care, the construction, the repair, and the maintenance of health care facilities throughout the Nation for Indian people.

Major areas of our program, which includes the tribal, the urban, and the Indian Health Service, have been the community outreach program, the public health infrastructure, the maintenance of that structure, the community health representatives, and public health nursing.

Some of the strides that may have been made in Indian country regarding accident prevention programs are all examples of improving health care status.

As you have pointed out, and Congress is certainly knowledgeable of, there still remains a large gap between the health status of American Indians and Alaska Natives with that of the rest of the population.

We all have to recognize that fact, and all of us together, I believe, must close that gap.

DOWNSIZING

As the new Director, I believe it is imperative that I manage resources effectively. We have started on the road to design an organization with fewer layers of management, and to direct resources to the local community and programs. Operations are becoming, hopefully, more efficient and effective, and reducing overhead functions by redeploying positions and staff to local programs and assuring that community health and patient care do indeed come first in the Indian Health Service and tribal urban programs.

As the new Director I certainly recognize and want to strengthen the government-to-government relationship of the Federal Government with the Indian nations, and want to address the growing needs of the urban Indian programs.

The design in regard to developing and taking a different course to a more effective Indian Health program must certainly be undertaken through partnership with Indian tribes and organizations. In addition, restructuring efforts, whatever they may be, and the effort that must go forth in that, must reaffirm the sovereignty of Indian nations and the right of Indian people to quality care in the rural and urban programs.

This year, as related in the budget, we will emphasize programs in elder care, new substance abuse prevention, child abuse and domestic violence prevention, women's health, epidemiology, and urban health care.

We must continue to maintain accomplishments in elevating the health care status of Indian tribes and Indian organizations and programs.

However, we also need to branch out to other Federal agencies, foundations, medical and health care systems, universities, and the

local and community organizations that exist near many of our programs.

We must continue to maintain, upgrade, plan, and construct needed facilities in Indian country.

BUDGET REQUEST

The President's budget, as you cited, proposes \$2.3 billion, or approximately a 4.5-percent increase over the 1995 budget. The health services proposal is \$2.8 billion, or approximately a 5.7-percent increase.

Our clinical services proposal is \$1.7 billion. Our prevention health services is \$81 million, which is approximately a 5.3-percent increase. Our health facilities is for approximately \$247 million.

Overall, we propose an increase of \$91.3 million to continue the 1995 program. We requested \$10.5 million for program expansion including those cited programs of women's and elder care, child abuse prevention, urban health and epidemiology programs.

The IHS certainly agrees with the current efforts to increase the efficiency of Government and to put resources at the local level.

REORGANIZING THE IHS

However, as the new Director and as an individual who has served in the local communities as a physician and a clinician in the rural areas, and coming from the reservation at Laguna, NM, I think applying broad brush-stroke programs to Indian programs needs to be cautioned.

In the zeal to downsize, to reduce budgets, to consolidate or eliminate programs, we all have to think about what will be the ultimate effect on health care for Indian people. Will it really improve health care for them?

Tribal nations and Indian organizations must be included and be at the table in the efforts as we redirect or direct programs to include access and resources for Indian tribes, and not eliminate those resources.

Resources are already inadequate for Indian health programs to address the needs in rural and urban Indian programs. Further reductions will only heighten the adverse impact on Indian people.

NPR programs, block grants to States should not proceed unless Indian tribes and organizations are involved and concur with those processes. I believe that changes in the delivery of Federal services require extensive consultation and involvement of tribal governments and Indian organizations.

I believe this is our obligation to Indian people, and that it honors and upholds the relationship of this great Nation to its first citizens.

On a more personal note, 3 weeks ago tomorrow morning my 89-year-old mother died at the Albuquerque Indian Hospital. She had a longstanding illness, and I was there with her when she died.

I would like to say that that particular facility was built in the late 1930's. It has been upgraded. There is newer equipment and there is staffing. It is JCHO accredited.

The quality and the attitude of the staff of that facility was tremendous. As I had an opportunity to walk around the hospital and

meet the staff, certainly their attitude and their caring was well felt by all the patients they served.

COMPARING IHS AND NON-IHS FACILITIES

However, next door was the large University of New Mexico Medical Center and all its programs. My thought while sitting in the room with my mother and looking at that facility next door was what the difference of health care and facilities and staffing could be for Indian people.

Earlier in my career, I had the privilege to train at the Mayo Clinic in Rochester, MN. I also have been part of a Federal program, the Federal Bureau of Prisons as an associate warden, and directed a regional medical program in Rochester, MN, for Federal prisoners. There, we were able to access medical care at the Mayo Clinic for Federal prisoners in the facility.

That assignment, as a commissioned corps officer to the Bureau of Prisons, came right after my several years in the Aberdeen area.

The differences of medical care, equipment, the facility and the availability of medical care at the Mayo Clinic made quite an impression on me compared to when I used to go to Eagle Butte, Fort Yates and all the other facilities for tribes in the Aberdeen area. I walked into a Federal facility for prisoners that had access to one of the world's best medical care.

I have continued to think of how we can improve health care for Indian people. I think we can all do a bit better.

When the dust of streamlining and consolidations, reducing the deficit, the elimination of programs, improving the financial system of health care, welfare reform and other programs settles, can we honestly say to our children, our families and relatives, and our grandparents that we have indeed improved health care for Indian people?

PREPARED STATEMENT

I would like to work with you and the committee in its efforts in regard to health care and will certainly answer any questions you have at the present time or will have in the future.

Thank you.

Senator BENNETT. Thank you very much, Doctor.

[The statement follows:]

STATEMENT OF MICHAEL H. TRUJILLO, M.D.

Mr. Chairman and Members of the Committee:

I am Dr. Michael H. Trujillo from the Laguna Pueblo, New Mexico. I am the Director of the Indian Health Service (IHS). Accompanying me today are Mr. Michel E. Lincoln, Deputy Director; Mr. Reuben T. Howard, Acting Director, Office of Tribal Self-Governance; Dr. Phillip L. Smith, Associate Director, Office of Health Programs; and Mr. Gary J. Hartz, Acting Associate Director, Office of Environmental Health and Engineering. Representing the Office of the Secretary is Mr. Dennis Williams, Deputy Assistant Secretary for Budget. We are pleased to be here to discuss the fiscal year (FY) 1996 budget request for the IHS.

I began my career as a primary care physician at an IHS facility near the reservation where I grew up in New Mexico. My directorship of this Agency began one year ago. My appointment on March 28, 1994, followed unanimous confirmation by the Senate. I was sworn in as Director on April 8, 1994, by Dr. Philip Lee, Assistant Secretary for Health and moved to Maryland in June. This year I have begun to prepare this Agency to enter a new era of health care delivery and to strengthen the partnership with tribes in determining how those services will be delivered.

Providing health care to Indian people is an honor and distinct privilege. The Agency has been fortunate to have employees who are dedicated to the key mission of the Agency: that is to raise the health status of American Indians and Alaska Natives (AI/ANs) to the highest possible level. Three employees who exemplified this dedication and commitment were Dr. Christopher Krogh, Dr. Ruggles Stahn, and Dr. Arvo Oopik. All three physicians lost their lives last year while delivering health care to rural areas in the Dakotas. This year we are dedicating our health care efforts in their memory.

The IHS, unlike any other Federal agency, is committed to carrying out the Federal responsibility of providing high quality health services to AI/ANs. Numerous treaties, statutes, and executive orders have established and confirmed this Federal responsibility. During the 1970s, two historic legislative bills, the American Indian Health Care Improvement Act and the Indian Self Determination and Education Assistance Act, were passed by the Congress and enthusiastically endorsed by the President. These bills fundamentally effected and clearly established the IHS mission and goals and clarified the commitment and responsibilities of the Federal government with regard to: 1) Indian self-determination based on the special and unique relationship that exists between the Federal government and tribal governments and 2) Indian health by committing to raise the health status of AI/ANs to the highest possible level.

President Clinton reaffirmed the government-to-government relationship in a meeting with Indian leaders at the White House last April. The President directed Federal agencies to consult with tribal governments on any action affecting Indian people. His directive re-enforces the intent of the Congress when it passed the Indian Self-Determination Act in 1976. This legislation is a cornerstone of Federal/Tribal relations and reaffirms the government-to-government relationship between the United States and Indian Nations.

Under the longstanding Federal policy of Indian Self-Determination, the IHS must support the right of all tribes to decide whether they want to compact, contract or retain Federally delivered health care services for their communities. The IHS is obligated to ensuring that it can carry out its responsibilities

to all tribes regardless of the avenue of tribal self-determination selected by the tribes.

The Congress has continued to refine and expand opportunities for tribes and Indian communities to deliver health care to their own people. The number of tribes and urban Indian organizations assuming the responsibility of delivering health services has steadily increased and has now reached an unprecedented level: one-third of the Agency's annual appropriation is invested in the delivery of health services by tribal governments. The balance of those appropriations are utilized by the IHS to provide direct services to sovereign Indian Nations that also exercise their right to self-determination by choosing to have the Federal government provide those health services and by urban Indian health organizations pursuant to Title V of the Indian Health Care Improvement Act.

The IHS, like other health care providers, is facing ever increasing costs in delivering health care. The IHS provides services to approximately 1.4 million AI/ANS residing in urban, remote, rural and isolated areas in 34 states. The cost of providing care in urban areas (where there is a health care infrastructure) is significant, but less than the cost of providing care in rural and isolated areas where there is no infrastructure.

The IHS service population is unique. Tribal culture, family, traditions, religion, and values that are passed from generation to generation dictate the need for specialized methods of delivering appropriate health care in a variety of settings. The many diverse AI/ANS cultures have survived and co-exists within a dominant society that has sometimes aggressively tried to alter or even destroy it. The fact of our survival and existence requires and deserves culturally sensitive program delivery.

The partnership of the Congress, tribal governments, Indian organizations, and the IHS has resulted in significant improvements in the health status of Indian people. For example, the age-adjusted death rate among AI/ANS because of gastrointestinal diseases declined by 81 percent since 1973. This success is due to the IHS sanitation facilities construction program. The age-adjusted death rate of tuberculosis has declined by 74 percent for the same period. This success is related to extensive IHS, tribal, public health and community outreach programs. The maternal death rate has declined by 65 percent for the same period because of IHS maternal and child health programs. The age-adjusted death rate because of accidents declined by 54 percent, a success related to innovative tribal and IHS injury prevention programs. The IHS has achieved immunization rates of 93 percent for 2-year old Indian children. This rate exceeds the average of 67 percent for all races within the U.S. population.

These accomplishments prove that working in partnership with local Indian communities does work. They also prove that providing the full continuum of care including public health, prevention, and acute care pays dividends in improved health status, and that community outreach programs designed to encourage individuals to be responsible for his or her own health can succeed. However, there still remains a large gap between the health status of AI/ANS and the health status of the rest of society. All of us together must close that gap.

Like the rest of the nation's health care systems, the IHS must manage in an environment of increasing health care costs, and a growing service population. It is, therefore, imperative that the IHS manage its resources efficiently. Recently, I

articulated my vision for a new IHS to the stakeholders in Indian health. My vision includes designing an organization that will have fewer layers of management, while directing resources to the local community. I recognize that operations must become more efficient commensurate with changes in laws, regulations, and technology. Fewer layers of management will reduce the overhead functions of the Agency, and, as a result, we're looking at ways to improve services to our customers by transferring positions and staff to local programs.

The IHS is changing, but this change must be undertaken through partnership with the more than 500 Indian Nations. To initiate the process of change, I embarked upon discussions with IHS customers and employees in October of last year. I convened a customer-dominated group to design a new IHS that will result in improved delivery of services. The group is the Indian Health Design Team and it will guide the process of change. The process will have the active participation of tribal leaders, IHS customers and employees, and health care professionals. This process reaffirms the sovereignty of Indian nations and the right of Indian people to quality health care throughout the United States.

The call for changes in the IHS is not only coming from the Administration and the Congress, but from tribal governments as well. For example, in response to tribal leaders' desire for more control of its programs and resources, the Congress amended the Indian Self-Determination Act last year to require IHS to compact with up to 30 additional tribes each year so they can provide their own health care based upon their own priorities and design. Depending on the availability of funding, more tribes are expected to assume their share of the Federal responsibility for their health care. Under this self-governance demonstration authority, IHS must reduce its administrative costs and transfer those functions and funds to those compacting tribes.

In the coming year, we will emphasize programs in elder care, youth substance abuse prevention, child abuse prevention, and women's health. We must continue to maintain our accomplishments in elevating the health status of Indian people. With the partnership between the IHS, tribes, Indian organizations, and the support of the Congress, we will strive to be the best community oriented primary care delivery system in the country.

The President's budget requests a program level of \$2.3 billion, including \$2 billion for health services and \$247 million for health facilities. The 4.5 percent increase over FY 1995 includes increases of \$91.3 million to allow for the continuation of the FY 1995 program levels in FY 1996; \$10.8 million to staff and operate newly constructed facilities; \$10.5 million for program expansion in Information System Initiatives, Women and Elder Health, Epidemiology Centers, Child Abuse, Contract Health Services, Urban Health and the Indian Self-Determination Fund. The request includes \$11.2 million to complete the construction of the Hays, Montana and White Earth, Minnesota Health Centers.

The Indian Health Service is committed to current efforts to streamline and reinvent the Federal government. Participating in this important initiative will, without a doubt, affect our resources and, ultimately, the delivery of health care. If the IHS' applied expertise in core public health functions critical to elevating the health status of AI/AN is diminished, the progress achieved in reducing the disparity in health status will be lost. The challenge before all of us - IHS, Tribes, Congress - is to design a more efficient and effective IHS so that we do not lose momentum in our fight to improve the health of AI/ANs. We are prepared, and indeed have begun, to take on this challenge. However, it is important to remember that we are

dealing with sovereign nations. The ramifications of any change in the delivery of Federal services to these populations requires extensive consultation and involvement with these sovereign governments.

Mr. Chairman, this concludes my statement. We will be pleased to answer any questions that you may have. Thank you.

BIOGRAPHICAL SKETCH OF MICHAEL H. TRUJILLO, M.D.

Michael H. Trujillo, M.D., M.P.H., is the first Presidential appointee to head the Indian Health Service (IHS), an agency of the U.S. Public Health Service (PHS).

He was formally sworn in as director of the IHS on April 9, 1994. He was nominated by President Clinton Nov. 22, 1993, and confirmed by the Senate March 25, 1994. Dr. Trujillo is the second American Indian to head the Agency and the first full-blooded Indian to do so.

As IHS director, Dr. Trujillo directs a \$1.9 billion national health care delivery program responsible for providing preventive, curative, and community care for approximately 1.3 million of the nation's 2 million American Indians and Alaska Natives. As the director he is an Assistant Surgeon General and holds the rank of Rear Admiral in the Commissioned Corps of the PHS.

As a full-blooded American Indian, Dr. Trujillo's roots are from his reservation, the Laguna Pueblo, New Mexico, and as a physician his home has been the PHS. Dr. Trujillo has dedicated his career to strengthening the health care delivery system for American Indians and Alaska Natives and improving the health status of Indian communities nationwide. He advocates for the involvement of Tribal representatives in managing their own health care programs through self-determination and self-governance programs.

Dr. Trujillo was raised at Laguna Pueblo, where his parents were teachers at the Bureau of Indian Affairs grade school. He was the first American Indian to graduate from the University of New Mexico School of Medicine, and the 53rd American Indian doctor in the country. Dr. Trujillo's commitment to improving the quality of life for American Indians follows the example set by his father, Miguel H. Trujillo, who was instrumental in obtaining the right to vote for New Mexico Indians in 1949.

His assignment before his appointment was as the chief medical officer for the Portland, Ore., area of the IHS. Dr. Trujillo managed direct and preventive health delivery programs serving 120,000 American Indian residents on 40 reservations and urban areas in a three-state region. He led a team effort to implement managed care programs and Total Quality Management initiatives for all service units of the Portland Area and health programs owned and operated by various tribes. Previously, Dr. Trujillo was a Clinical Specialty Consultant to the Bemidji, Minn., area of the IHS, where he helped coordinate a three-state regional chronic disease program.

He served concurrently as the associate warden for medical and hospital programs and as the medical director at the Federal Medical Center of the Bureau of Prisons in Rochester, Minn. He directed the medical and hospital staff, and also practiced as an internist for a new medical, surgical, and psychiatric national referral center of the Bureau of Prisons. He also coordinated specialty medical services with the Mayo Clinic, also in Rochester. The Federal Medical Center became the major center within the Bureau of Prisons for prisoners with complex diseases, including AIDS and HIV.

Dr. Trujillo has also served as deputy area director and as the area chief medical officer for the Aberdeen, S.D., area of the IHS. He managed a direct health care delivery program for a four-state region serving 70,000 American Indians in 16 tribes.

Throughout his professional career in the PHS, Dr. Trujillo has held various senior level management positions including the PHS Regional Office in New York City and the Phoenix, Ariz., IHS Area Office working with diverse local cultures. On a special assignment to work with the American Indian Health Care Association in St. Paul, Minn., he was a special projects officer responsible for initiating nationwide quality assurance programs and a medical provider recruitment program for urban Indian health centers.

Dr. Trujillo received his undergraduate, graduate, and medical degrees from the University of New Mexico, Albuquerque. His medical training is in family practice and internal medicine, and includes a clinical fellowship in preventive medicine at the Mayo Clinic. He received a masters degree in public health administration and policy from the University of Minnesota School of Public Health.

Dr. Trujillo's professional affiliations have allowed him to serve as a health advocate for Indian people. He is a member of the American College of Physician Executives, the American Association of Indian Physicians, the Association of Military Surgeons of the U.S., the National Rural Health Care Association, the Western Canadian/American Health Council, and the American Public Health Association. Among other committees, he serves on the Total Quality Management Executive Council for the Portland IHS Area, the National IHS Managed Care Committee, and on the Advisory Committee of the Native American Center for Excellence at the School of Medicine of the University of Washington, Seattle.

Dr. Trujillo and his wife Judith have three young daughters.

SELF-DETERMINATION AND SELF-GOVERNANCE

Senator BENNETT. We appreciate your testimony, not only the facts and figures but the personal expression. We extend our sympathy to you on the loss of your mother.

You may or may not know that I am involved in the overall health care issue, and I listened with great interest to some of your comments. You said one-third of your budget goes to the tribes.

Is that in the form of a block grant or something similar to a block grant?

Dr. TRUJILLO. No; there are various components to our program, one of which is a new legislation called self-governance in which tribes can compact with the Federal Government and the Indian Health Service.

Resources at the local level, the regional area programs and our headquarters programs are taken over by the Indian tribes, and they can utilize those resources to deliver or enhance their program.

Another process is by which the tribes can contract with the Indian Health Service for specific programs and they can also utilize those services.

Senator BENNETT. I don't understand the mechanism, how that works. You say one-third of your budget goes to the tribes.

Do they then use that to contract back with you or are those the moneys that they use to contract with somebody other than you if they make that choice?

Dr. TRUJILLO. When they receive those resources they have several options available to them. They, in the majority of times, utilize those resources to manage and administer and run their own programs.

They can also utilize the resources to obtain further services by contracting or obtaining or buying services from other resources.

And in some cases, within the new self-governance program, a tribe may elect to have those resources remain within the Indian Health Service. We continue to provide some services for them. There is a lot of increased flexibility for tribes in this particular relationship.

TRIBES PURCHASING HEALTH INSURANCE

Senator BENNETT. Is there a possibility, or are there examples of where a tribe would go to, let us say, the blues and say, we want an HMO-type relationship or a managed care-type relationship of the same kind as you are providing for Federal Government employees or to General Motors or some other large risk pool?

Dr. TRUJILLO. That option is available. And in fact there has been a pilot project or a project in Arizona for a number of years with the Pasqui-Yaqi Tribe because there was no facility at that particular place that was Indian Health Service managed.

Resources from Indian Health Service were utilized with the tribe to take a look at purchasing health care programs and services from a managed care program.

There has been modification of that experience, and we are working with the Department of Health and Human Services to see how we might be able to replicate some of those ideas and methodologies to other programs.

There is another avenue which is available and that I am a little bit more familiar with more recently is since I used to be the Chief Medical Officer in the Northwest area. There, we have the Confederated Tribes of Warm Springs.

They have now taken over a portion of their program and have utilized the resources to look at their own health care system, and the epidemiology, and are assessing how they might not only provide direct health care services themselves but also add on additional services by utilizing insurance and managed care concepts with nearby facilities and programs that are outside the Federal system.

Senator BENNETT. Do you have enough experience with that to comment on its impact, one, on the medical result or health care result; and two, the financial?

Dr. TRUJILLO. Overall I don't think we have a large amount of data on the financial aspects of the cost-benefit relationship. The impact on health care, of course, long term, will take a number of years.

What we have found, however, is that there has been a continuation of the program with no adverse impact using that alternative type of program.

Senator BENNETT. But you still do not know whether it is a financial benefit or not.

Dr. TRUJILLO. I do not know if we have those particular figures.

Mr. Lincoln, can you recall anything, or, Dr. Smith?

I do not know if we have any specific data on that.

Dr. SMITH. The normal mechanism for making comparison of financial efficiency sometimes is not applicable to the IHS model of delivery.

Senator BENNETT. I understand that.

Dr. SMITH. So when people look at it, they often look at per capita amount. And what we are starting out with was at such a disproportion.

And one thing that we can say, is that we have some evaluation of programs where we have been able to negotiate lower rates. In

our direct service program we clearly provide services at a much lower cost than can be provided by almost any other organization.

But we only provide a certain service level. And beyond that, in terms of secondary and tertiary care, we rely on provision of services elsewhere. We have found in these type of programs we have been able to accrue savings because we have been able to negotiate rates for reimbursement. We are able to offer the facilities a set amount of patients, and a reliable way of reimbursing them.

MEDICARE REIMBURSEMENT RATES

We have used the medicare allowable rate as a standard. And anything below that, we look at that as a pretty reasonable negotiated rate since these are usually 80 percent of what the billed charges normally are for the region.

Senator BENNETT. Medicare is facing major restructuring—

Dr. SMITH. Exactly.

Senator BENNETT [continuing]. Because of their inability to keep up with the changing demographics and other challenges. So I would hope you would look for benchmarks elsewhere.

Dr. TRUJILLO. We are looking at, of course, negotiating with health care systems for packages of care for the system.

The other aspect we are looking at is various universities and medical centers to see how we might be able to coordinate with them to expand some of the services for Indian people.

HEALTH CARE NEEDS

Senator BENNETT. Nowhere in the budget request does IHS propose to fund 100 percent of health care needs. What are the unmet needs by major activity?

Dr. TRUJILLO. There is a large amount of unmet need in construction, sanitation, public health, and in all areas, including the direct health care services.

What we can certainly do is provide for you and the committee some detailed explanation of this and also some areas of emphasis that can be, I think, of assistance as you look at the budget.

[The information follows:]

LEVEL OF NEED

[Dollars in millions]

Activity	LNF in percent	Fiscal year 1995 funding	Needed to meet 100 percent LNF ¹
Hospitals and clinics	75	\$823,866	\$275,000
Dental	44	57,518	73,000
Mental health/social services	37	36,448	61,852
Alcohol and substance abuse	53	91,352	80,648
Contract health services	72	362,564	130,000
PHN	33	23,505	47,700
Health education	47	8,244	9,300
CHR	18	43,955	213,000
Urban	22	23,349	82,800
Environmental health support	44	40,314	51,309
Sanitation facilities construction funds	46	84,889	² 100,611
Facilities support	47	38,294	31,040

LEVEL OF NEED—Continued

(Dollars in millions)

Activity	LNF in percent	Fiscal year 1995 funding	Needed to meet 100 percent LNF ¹
Maintenance and improvement	78	38,334	16,737
Health care facilities	21	27,822	³ 107,770
Total		1,705,454	1,280,767

¹ This is an annual requirement, but could be increased over 5 years for effective planning and distribution; additional costs would recur annually to continue this level of service. Funding could be provided from both IHS and non-IHS sources.

² Based on a 10-year plan revised in fiscal year 1995.

³ Based on a 5-year health facilities planned construction budget.

CHILD ABUSE AND MENTAL HEALTH

Senator BENNETT. Dr. Smith, some of the areas that we have been looking at are child abuse and mental health. I recall that in mental health and social services we are only funding at the present time of 45 and 30 percent of the level of need, for example.

Dr. SMITH. That is correct. Historically we were addressing infectious diseases impacting the health of Indian people.

As we made progress in those settings and really decreased the effect of tuberculosis and other infectious diseases we have now moved into the setting of behavioral health and chronic diseases. And those areas are our greatest needs.

And some of those that have been highlighted, we were not prepared to address. I think that we are no different from the rest of the country in trying to address the impact of alcohol and substance abuse, the behavioral mental health issues as well as violence in the community.

In terms of addressing these problems, I think with almost any type of disease that you look at, with the exception of maybe some isolated setting, we usually have numbers; epidemiologically that show greater impact on the Indian people than any other ethnic group in the United States. And so our greatest needs are in those areas.

We are a young population. And one of the areas that also is of great concern to us—just like the rest of the Nation—is that we are going to feel the impact of a tidal wave of elders coming our way.

We made dramatic improvements in the things that normally used to kill us before, so that we are now living longer. And we have a big wave of elders that are coming our way and will probably be needing medical services.

UNINTENTIONAL INJURIES AND ACCIDENTS

Senator BENNETT. You are the victim of your own success.

Dr. SMITH. That is right, and we are trying to address that. One of our biggest concern for Indians between the ages of 1 year and 45 years is the leading cause of death: injuries.

And that is an area of increased need as well. It is more of a public health concern rather than like taking care of a strep throat.

Senator BENNETT. Are these auto injuries, are these usually in the home, a combination?

Dr. TRUJILLO. Unintentional injuries, and a lot of accidents. One of our programs within our environmental sanitation program is our nationwide accident prevention program.

We have several examples where tribes, along with the Indian Health Service and other agencies, have made a significant inroad into accident prevention.

What is also beginning to appear, unfortunately, as you decrease the rate of accidents, is data and statistics of violence rising.

Mr. Hartz, could you give a small example of perhaps the Navajo Nation?

Mr. HARTZ. Yes; when the Navajo Nation passed the seat belt restraint law it really made a significant effect on the serious injuries that showed up over a 3-year period.

They actually showed a reduction of 28 percent in the hospital admissions associated with serious injuries over a 3-year period of time, which is remarkable.

Another example that comes to mind is in Alaska. Not much used for motor vehicles there, but the high incidence of injuries or fatalities there is attributable to drowning. They embarked on a program working with the Yukon-Kuskokwim area and reduced the drownings by 30 percent. Look at the epidemiology of the incident and approach it just like one would in any other epidemic.

That is the approach that is being used. The Indian people are really making inroads in these community-based efforts that are taking place. That is where we can see the most impact being done.

Senator BENNETT. But I do not understand why violence is increasing as lives get saved.

Mr. HARTZ. What is happening is where motor vehicle crashes were the leading cause among the injuries, now you are seeing assaults and violence taking the place of motor vehicle crashes. It is the leading—

Senator BENNETT. But has the number of assaults and violence gone up?

Mr. HARTZ. They are not going up, they are coming down.

Senator BENNETT. The others are coming down.

Mr. HARTZ. Yes; there is an exchange. I want to make that clear, because the impression could have been that they are not killing each other with automobiles so they are beating each other up. I wanted to make sure the record did not get that impression.

Dr. TRUJILLO. However, I would like to say that there is certainly the incidence of problems with youth. There is a large instance of alcohol substance abuse that is in Indian country and that has to be addressed.

Gangs are also beginning to be prominent on some of the reservations now. So you are indeed seeing some increase of interpersonal violence in that aspect, too. Indian country, and if you live on the reservation, certainly is not immune to the problems that we face nationwide.

FTE REDUCTION

Senator BENNETT. The administration has requested a total of 15,235 FTE's in fiscal 1996. This is a net reduction of 230 below the fiscal 1995 level. Setting aside the staffing of new facilities and other additions, actual net FTE reductions are to be 417.

The request indicates these reductions will be made at headquarters and area offices as well as through increased use of contracting, compacting and university affiliations.

Could you be a little more specific about where these reductions are to be taken and how functions will be consolidated or eliminated to allow for these?

Dr. TRUJILLO. I will also have Mr. Lincoln add some detail, but specifically we are looking at restructuring the Indian Health Service.

We have formed an Indian health design team with Indian tribal leaders and organizations and looking at the overall direction of how we can not only restructure the Indian Health Service, but also what part of tribal programs and what part of the urban programs will play in this as we move services and programs out of our headquarters, east and west programs to the area, and certainly to the local level.

We have begun that effort. In 1993, headquarters had a staffing level of 742, and right now we are at a level that is 14 percent below that. There has been some redeployment at the area level and some growth at the service unit level where the "rubber hits the road."

That is an effort we are going to be continuing as well as our restructuring process with Indian tribes and Indian organizations so there is not an adverse impact to the services that are either contracted or in which we directly serve.

Mr. Lincoln.

Mr. LINCOLN. Mr. Chairman, if I could just give you some data that will give you a sense of where the agency is moving and where the agency's priorities are.

Dr. Trujillo mentioned that there has been a reduction of the headquarters FTE and so administration is shrinking. Through the Indian health design team effort there will be a managed FTE reduction as we move toward a goal of a new Indian Health Service, which will be a much more streamlined and effective Indian Health Service.

At the area offices there has also been a reduction in administration and program oversight. We have 12 area offices throughout the Nation including Phoenix, Albuquerque, Portland, and Aberdeen, SD.

We have reduced over 600 FTE's at our regional office level and our area offices, resulting in a 22-percent reduction there.

Those FTE's are being retargeted within the overall FTE ceiling toward services, as Dr. Trujillo mentioned, and toward meeting the new staffing of the new facilities that are coming on board.

It just so happens—this is a reflection of priorities, Mr. Chairman—there has been a 5-percent increase over this same period of time—this last 12 to 16 months—at the service unit or at the hospital, at the health clinic, and at the tribal health program level, which amounts to about a 625-FTE increase.

So you can see where the agency is headed just by the way we are managing the attrition that is occurring in these activities.

Senator BENNETT. The only other comment I would make, I would hope you would not play what I have discovered is a fairly standard Federal Government game, which is reducing the FTE's

and increasing contracting and ending up with bigger budget numbers than you had before by trumpeting to everybody how vigorously you are downsizing. And that, of course, shows up in the overall budget picture.

You are still new enough, Dr. Trujillo, not to have been infected with that particular virus, and I would hope you would take some immunization shots for it so as not to allow it to come into the agency.

Dr. TRUJILLO. One of the things that we are—certainly as we talk about contracting, most of our facilities and tribal programs are in the rural area.

So when we look at that the level of services, and try to buy those same services in a metropolitan or urban program, they certainly cost much higher in a rural area, or may not be available.

So as we talk about contracting and what services are available, that argument and those concerns enter into the decision in how we will be working with tribes on this aspect.

TELEMEDICINE

Senator BENNETT. You are undoubtedly aware of the tremendous strides that have been made in telemedicine where facilities like those at the Mayo Clinic can with the telephone and a fax machine almost be duplicated in the field; not completely, but almost.

In my own State we have one of the world's leading authorities on injuries and trauma connected with earthquake damage. He flew to Armenia after the earthquake there, then flew back to Salt Lake but continued to advise and in some cases actually treat patients by satellite.

I have long felt that that is ultimately the solution to those who are in isolated parts of the country who cannot have somebody read an EKG or even examine an x ray. But with modern technology you could have somebody at the Mayo Clinic consulting on the case in some parts of remote Utah or in Mexico.

Dr. TRUJILLO. Yes.

Senator BENNETT. I hope you are working in that direction.

Dr. TRUJILLO. In fact, we have been working with the Mayo Clinic on some programs. More recently we had a connection of telemedicine between a new facility in Pine Ridge, SD, and Mayo Clinic Rochester.

We also had some interaction with the Mayo Clinic Scottsdale with some of our facilities in the program in Arizona.

I believe we also had some relationships with Johns Hopkins regarding some of our Alaska programs. We are also working with NIH and the armed services to utilize the network that is there for intercommunication on telemedicine, which certainly is a viable aspect.

One of the first experiments in coordination of telemedicine to some extent occurred within the Indian Health Service a number of years ago in Sells, AZ, with our Tucson program and also involved some of our Alaska programs and Alaska villages which are very remote from medical centers and hospitals.

That is certainly an area that we want to emphasize and are working with the various programs.

NEW FACILITIES STAFFING

Senator BENNETT. \$10 million is requested to staff new facilities. This level of funding would allow operation of the Alaska Medical Center and the Hays Health Center for 3 months.

The Alaska center is to be staffed at an 85-percent level for the next 4 years. Hays will be staffed at 85 percent for only 1 year.

Is the money requested for the staffing of new facilities sufficient to staff these facilities at an 85-percent level? If not, when are they scheduled to achieve the 85-percent level?

Is the request for staffing sufficient to keep all facilities on the schedule to achieve that level within 3 years?

Dr. TRUJILLO. Particularly for this question, we would certainly like to add some detail. The majority of our facilities, as we plan and work with tribes and within our planning process, is staffing and operations at an 85-percent level.

Mr. Hartz, could you give some specifics on the Hays and the Anchorage facilities in regards to the level of funding and the staffing that we just talked about?

Mr. HARTZ. Well, as far as the completion times, the funding is available for the Anchorage facility and is on schedule to be completed in the summer of 1996. So from a standpoint of the request for the staffing, I believe that pretty well covers that one.

As far as the Hays and Harlem facilities at Fort Belknap, the completion on the Hays facility is scheduled for late calendar year 1996. And then the Harlem facility is to be completed in the summer of 1997.

So when they are talking about bringing some staff on board that would be appropriate. The course of bringing them on board is related to getting partial year funding. We would transition staff in until the facility is fully complete.

THIRD PARTY PRIVATE COLLECTIONS

Senator BENNETT. The budget request estimates third party private collections will be \$33,784,000, a slight increase over the estimate for fiscal year 1995.

Now, as I said in my opening statement, we are pleased that you are not being overly optimistic, some would say fanciful, about what you are going to be able to get. But we would want to know what you are going to do to get as much as you possibly can.

Do you have a rough idea of whether third party collections will be above or below that estimate?

Dr. TRUJILLO. We feel that is a relatively accurate number within our program and our historical collections effort.

We are also working within our health care system on the business office aspect of assessing collections and availability of the third party funds to make sure that we are getting the collections that could be brought in.

We have some pilot programs with several of our facilities and tribes that are looking at how we can improve the collections more specifically. Each of the area office directors has been charged with looking at that whole program.

The staff certainly knows that this is the one source of dollars that can be looked at as a resource for improving not only staffing but also the internal operations of our program.

Dr. Smith, do you have anything to add on the collection effort within your office, the business office program?

Dr. SMITH. I think the only other thing that I would add is that there has been a lot of interaction with our sister agencies in terms of setting Medicare and Medicaid collections fees.

We are now moving into the automated billing systems and are utilizing that in our facilities to facilitate that.

The other thing that I mentioned earlier is that we started a new process which Dr. Trujillo was actively involved earlier: a new rate quotation methodology, a method of negotiating with providers that we work with.

And in conjunction with that we were able to look at their billing practices and are utilizing more of the public sector billing methodologies to enhance our activities.

We are also investigating the idea of contracting out the billing processes and working with collection agencies to address that.

Our main concern is in terms of public service interaction because of the methods that some bill collectors use in collecting these resources.

And we certainly do not want to do that, mainly because the medical services that we provide should be at no charge to the Indian patients who are eligible for those services.

Senator BENNETT. I think it is appropriate that you have that kind of sensitivity.

Well, your estimate is only marginally higher than 1995. How did you do in 1995? I guess it is not over yet, but do you have enough months under your belt that you can make a projection?

Dr. TRUJILLO. Yes, sir; it looks relatively well. At the end of the year and the beginning of the next fiscal year you also see a larger amount of dollars coming in toward the end of that particular fiscal year too.

Senator BENNETT. But do your projections show you are going to get about what you thought in 1995? Are you going to do better or worse?

Mr. LINCOLN. We are fairly well on target. We are moving somewhere between 5 and 10 percent below what we would collect year to date. But that is being reviewed rather carefully, and we believe we will hit our targets by the end of the year.

THIRD PARTY COLLECTIONS POLICY

Senator BENNETT. I understand your policy is that all collections are returned to the originating facility.

Do you see any indication that this has the effect of enriching relatively well-off facilities at the expense of others that might have a greater need for additional funding? Would it make sense to put it all in a pot and then reallocate it?

Dr. TRUJILLO. The collections do go back to facilities where they are collected. There is also in some of the areas, and I have been involved in several, where there have been a coordination of the services for all programs that are in that area.

Looking at an areawide program, there is also discussion and some management initiatives, as you say, what are the priorities within our region that decides a specific location to utilize those resources that come back to those programs.

HAYS AND HARLEM FACILITIES

Senator BENNETT. I see Senator Stevens has arrived. I have some more questions to ask on behalf of the subcommittee, but I think I will submit those to you in writing and ask you to respond.

Here is one that I will ask before we turn the time over to Senator Stevens: IHS has requested \$2.2 million to construct the Fort Belknap Center of Hays, MT. The request also indicates a reprogramming request will be made in fiscal year 1995 to continue construction of the Fort Belknap Agency facility in Harlem, MT.

Why is a reprogramming necessary to complete construction of the Harlem facility?

Dr. TRUJILLO. I can have Mr. Hartz address that specifically. We have signed off on that reprogramming package. And, it is my understanding it is within the Department.

We hope to have those funds available by July so that it will prevent any increased costs and not extend the construction process out further.

Mr. Hartz, would you address the specifics of the reprogram effort in the package?

Senator BENNETT. And from what account will the funds be transferred?

Mr. HARTZ. The funds would be reprogrammed from completed projects. There are a number of projects where the scope of work has been finalized.

Senator BENNETT. You mean you came in under budget?

Mr. HARTZ. That is correct. We have come in under budget.

Senator BENNETT. How commendable.

Mr. HARTZ. We were pleased. As engineers and architects, we are pleased with that.

Senator BENNETT. Sure.

Mr. HARTZ. As part of this reprogramming, we will be looking at a number of projects that go back for many years. And this will pretty well deplete any ability to reprogram for some time in the future.

The effort is brought about because of the tightness of the appropriated dollars available. And because the Hays project had already started construction.

This is a way that the administration working with the Congress felt that we could bring to completion the Hays project.

Senator BENNETT. So you wanted to grab the money before the rescission makers got a hold of it.

Mr. HARTZ. We had not really thought about that as much as we were interested in coming to closure on a facility that had already started construction.

Senator BENNETT. Same effect. [Laughter.]

Senator Stevens?

ANCHORAGE AND KOTZEBUE FACILITIES

Senator STEVENS. Thank you very much, Mr. Chairman. I am sorry to be a little bit late. I note that the staffing and operating costs of a new facility in Anchorage and Kotzebue apparently are budgeted sufficiently to keep them on schedule, is that correct?

Dr. TRUJILLO. That is correct. And in regards to the timing and the dates for completion of the Anchorage site, everything continues to be on line without any problems.

Senator STEVENS. Well, is your allocation sufficient to provide staffing for the new hospital, the Anchorage hospital?

Dr. TRUJILLO. In regards to the timing of the phasing in, we believe it is. Yes.

Mr. Hartz, do you have anything to add on that specifically—

Mr. HARTZ. No; I do not. With the completion that is currently scheduled, Senator Stevens, for next summer, it looks like everything is going to work hand in glove.

Senator STEVENS. Is it still a proposal that that will be contracted out from the initial date of operation, under 638?

Mr. HARTZ. Those options are currently in—discussions are currently underway with the corporations in Alaska. And we are still working through this issue. We have no reason to believe that it would not be at this time.

Dr. TRUJILLO. The tribes have gone through the self-governance process, as you well know, into compacting. There is some discussions as to how they might be able to look at the program at Anchorage. However, that probably will be a number of years away.

If they do decide to take a look at the compacting for some of those services, they all have felt that that should remain a regional medical center. That was the sole purpose of that facility. The initial mission of the Anchorage medical program should remain intact.

FETAL ALCOHOL SYNDROME

Senator STEVENS. I have become increasingly concerned over the problems of fetal alcohol syndrome.

Have you any report concerning the portions of the operations of health care in my State as to the extent to which you are dealing with fetal alcohol syndrome now in the Indian Health Service?

Dr. TRUJILLO. We have had some data and some pilot projects that have been relatively successful in Indian country on fetal alcohol syndrome.

Dr. Smith, there was a couple that you had thought about citing in this particular case.

Dr. SMITH. That is correct. There is a facility in your State that is run by the tribes, where they work with the villages in the area and locate high risk pregnancies, and have the individuals come into the facility like a boarding house—

Senator STEVENS. We call it the Fetal Alcohol Syndrome Center.

Dr. SMITH. That is correct, and to date, since the project started, we now exceed almost 200 deliveries without any of the newborns manifesting any signs of the FAE or FAS.

We feel like part of that is because of a more comprehensive approach that not only talks about the medical implications of the

problem, but also the socioeconomic issues that often are ignored in the medical and patient interface.

That program takes into account the individual's home environment, community environment and also their social status, as well as their health status. And that has been very successful.

What it has done in terms of our statistics is it has played havoc with it, as you know, dropping the level of incidents quite rapidly. And I think that particular program is something that we are looking to duplicate in other sites.

Senator STEVENS. I have examined that. I have been there several times. It is very cost effective, I think. Many people seem to lose sight of the cost of fetal alcohol syndrome babies when they come into the general community.

I was told it was \$1.5 million to \$2 million before they are 18 in Alaska in terms of care and treatment, and this facility has been very successful.

But that is a limited number of people, as I understand it. It is a limited area that is dealing with—I would be very interested in seeing or hearing from you what is the program to deal with the population as a whole.

To my knowledge, that is not an outreach that deals with all the native communities of Alaska.

Dr. SMITH. No; it is not. The others are handled directly out of the health care facilities and with the outreach program, with the community health representatives and the public health nursing.

The results of that effort has shown to be very effective, but not as effective as actually bringing the individuals into a home like that.

Senator STEVENS. Well, other than interrogation, we do not yet have any way of determining when a child who is still in the womb is affected by fetal alcohol syndrome or will suffer from the effects of alcohol, do we? I mean, there is no test, is there?

Dr. SMITH. That is correct.

Senator STEVENS. It is empirical. You have to do it just through questioning.

Dr. SMITH. Well, that is correct. And sometimes we are not able to determine that until after the child is born. And on many occasions, we are not able to determine that for several years after birth.

Senator STEVENS. Well, do you have a program for the community health aides? I am not sure—the chairman said we have community health aides in every village now.

Do you have any program where they interrogate women who are carrying babies as to whether they have had any exposure to alcohol and when and—do you have a procedure set up so every woman in the villages is asked the questions to try and catch the fetal alcohol syndrome in effect before delivery?

Dr. SMITH. Yes; every woman who comes in for prenatal services in the Indian Health Services is asked standardized questions regarding their use of alcohol, smoking, plus other high-risk factors which may affect the health of the baby.

There is a standard protocol that is used—and note there are several organizations that we work with to help us do that.

We have some national organizations dealing specifically with fetal alcohol syndrome that really are the stressors for us that tie in not only with CDC, NIH, IHS, but also the tribal programs.

A lot of our expertise in terms of identifying this syndrome come from the university medical centers. We are using their criteria for identifying this syndrome.

One of the areas of concern for us is in the urban setting, where often we have the Indian patients who are not accessing the services that are available to those who are near IHS. This is because they are quite a ways from the resources that the Indian Health Service is able to provide.

What that does is, when you look at the aggregate data, affect the statistics that are generated nationwide. You will have a wide fluctuation in data because of the numbers that are coming in by State.

We normally use CDC data and try to do it as a nation. What we are doing is looking at that data to determine the progress that we are making are whether our programs are effective or not.

Senator STEVENS. I wish we had non-Indian Health Service statistics that matched what you are getting now in the Indian Health Service as far as fetal alcohol syndrome.

It is getting to be rather prevalent, almost a scourge type of problem for us, in the young women who are delivering who are still in school.

COMMUNITY HEALTH PROGRAM AND TELEMEDICINE

Let me shift over to the community health program. I note you do have an increase of \$909,000. I have been attending some of the telemedicine meetings that have been going on here and out.

And I am quite interested in whether or not we can look forward to tying these community health aides and their facilities into a telemedicine center.

Has that been explored yet by the Indian Health Service?

Dr. TRUJILLO. In fact, Senator Bennett also asked the question on telemedicine and what we are doing. We are in coordination with some programs at the Mayo Clinic with some of our facilities.

I believe Johns Hopkins is working with some of the Alaska programs at the present time.

Senator STEVENS. Yes; Mayo, too.

Dr. TRUJILLO. Yes.

Senator STEVENS. But I do not think we have any central facility. Will that come through the Anchorage facility? Will it have a telemedicine center in it?

Dr. TRUJILLO. We do not have a central facility. I do not know if we have—are being looked at.

Mr. Hartz, does the center itself have the capability for a telemedicine with the lines and the appropriate hardware there—

Mr. HARTZ. I am not aware of that. We will have to check.

Dr. TRUJILLO. Yes.

Senator STEVENS. Well, let me tell you just a little bit of history, and then I will shut up, Mr. Chairman.

When I first started traveling in the villages of Alaska, I found that in the BIA school, the superintendent's spouse usually was the person that ran the radio.

And through radio, they contacted the Indian Health Service hospital in Anchorage on a daily schedule. There were no doctors out there. There were no community health aides.

We subsequently established that program, and it has been very successful. But the important link, I think, with history is that there was—Anchorage was a central facility for information and for dealing with the villages.

And it coordinated the activities. And it did give the ability—the Indian Health Service the time to be exposed to a series of places every day.

And we started picking up statistics that showed trends and showed problems that were developing on a statewide basis and in the villages. I would urge you to think now in terms of what we are doing in this telemedicine group. It is an enormous group Governmentwide, as you know.

You know that the Marines were up in Kotzebue with their assistance just recently.

Dr. TRUJILLO. Yes.

Senator STEVENS. The Marine Reserves, I might add. They were just reservists on their active duty annually, who went up to assist in doing some catch-up medical and dental work in that area.

But I think that the new Anchorage medical complex that you are going to have certainly ought to have the space for a central facility for telemedicine.

And through telemedicine, one or two physicians can literally be working in 100 different villages rather than having one or two in four or five and letting the rest of them not have physicians.

I would urge that we use this facility for a statewide coordination, if it is at all possible.

Dr. SMITH. That is right.

Dr. TRUJILLO. I was at the opening of the new Kotzebue Hospital in February and saw that facility. And the distance between Anchorage and Kotzebue is certainly great. Even though you have a new medical center there in Kotzebue, that can also be an area of usage of some telemedicine, too.

Senator STEVENS. We saw a demonstration of a woman in Montana having an ultrasound breast examination in a clinic, and a physician at the Mayo Clinic in Rochester and another one in Phoenix, and we were here.

And the cost to the woman was \$25. The whole system cost \$40 for a first and second opinion instantaneously as to whether or not she had a problem with her breast.

Now I think when you look at that in terms of statewide problems you have with travel, we are going to be cost effective if we try to use telemedicine and use the advantage of diagnosis and really allocation of our expertise through a central facility such as Anchorage.

Telemedicine is going to save a lot of your money that you are currently spending for transportation, if it is done correctly. So I hope that you stay ahead of the curve. And I want to urge that you call on our side.

I think the Senate has been very responsible in terms of answering your call for assistance to deal with these distance medical problems in places like the west coast and the northern part of my State.

Dr. TRUJILLO. Yes.

Senator STEVENS. I thank you very much.

Dr. TRUJILLO. Well, you are certainly correct, and we will appreciate your assistance in this matter.

Senator STEVENS. Thank you, Mr. Chairman.

Senator BENNETT. Thank you.

MONTEZUMA CREEK HEALTH CENTER

Well, Dr. Trujillo, I cannot let you go without putting on my Utah hat. Do you know anything about Montezuma Creek?

Dr. TRUJILLO. I have been introduced to the Montezuma Creek issue. I know the Four Corners area very well and have traveled through that area. And, I know the distances there, too.

Senator BENNETT. We understand that 44 percent of the user population at Red Mesa will come from Utah. And if Montezuma Creek is closed, that 44 percent will have no other health care option.

We would like to send you a letter and ask you some questions about Montezuma Creek in the hope that that whole decision can be revisited.

We understand that the Navajo Nation does not approve of keeping a facility in Montezuma Creek. The members of the board of the Navajo Nation do not include as many Utah Navajos as we think perhaps it should.

Now, I will not make any attempt to interfere with that, but the net effect of the decisionmaking process could well be that Utah Navajos are not properly represented in this matter by their own Navajo tribal government.

Dr. TRUJILLO. Yes.

Senator BENNETT. And we would hope that you might consider being an honest broker, if you will, to try to find a compromise in this circumstance, because we believe that if the decision to close Montezuma Creek and put everything in Red Mesa goes forward, the net effect, in terms of your mission, will be deleterious.

Dr. TRUJILLO. Yes.

Senator BENNETT. And that people in Utah, members of the Utah Navajo population will end up with more serious health care problems than they have now that could have been alleviated by putting a satellite clinic in Montezuma Creek in conjunction with Red Mesa; staffing the clinic out of Red Mesa, and giving it a budget that could solve that problem.

Dr. TRUJILLO. Sure.

Senator BENNETT. So I will be sending you a letter on that and look forward to working with you to try to resolve that.

Dr. TRUJILLO. That will be fine. We will also answer that.

MONTEZUMA CREEK HEALTH CENTER

I would just like to add in that particular issue, which I have become more familiar with over the past several months, is that we did have this recent week a meeting, under the auspices of Senator

Orrin Hatch. The Senate and House staff met with the Indian Health Services, some representatives of the State of Utah and also the representatives from that chapter.

I believe we made progress in regards to the necessity for having all stakeholders and parties involved looking at the decisionmaking process. I think it has been a deliberative process. It has not been a process that has not taken a look at all the data.

I believe the Navajo Nation is concerned with the health care of that particular region as a whole. And, the new administration of the Navajo Nation has, I believe, gone on record that they support the previous administration's decision in regards to the placement of that facility.

We are looking at the whole regional health care system for the delivery of services, that whole area, and the access to care.

And, I believe it is in the best interest of all parties that we look at how we can do a better job for access to care for all those people in that area.

It may mean a facility, or it may mean taking a look at what other resources are available there and how access to other programs that might be brought into the picture.

We are looking forward to the next meeting that we hopefully are going to be setting up with congressional staff, the Navajo Nation, the chapter and the Indian Health Service.

Senator BENNETT. Fine. Thank you. I appreciate your responsiveness. The committee appreciates your testimony and your willingness to tackle these kinds of problems. We look forward to working with you as this whole thing unfolds.

Dr. TRUJILLO. Thank you.

ADDITIONAL COMMITTEE QUESTIONS

Senator BENNETT. There will be some additional questions which will be submitted for your response in the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

GENERAL REDUCTION

As you are well aware, within the next several weeks Congress will adopt a budget resolution that will guide spending decisions for the next several years. That resolution will rely heavily on spending reductions to put the government on a path towards a balanced budget. The Indian Health Service may take its share of cuts.

While I understand you are bound to support the President's budget, I hope that you will work with this Committee to see that any reductions below the budget request will be made judiciously.

Question. In general terms, could you describe how you would allocate resources should IHS funding be reduced below the request level? For example, is maintaining requested levels in Dental Services a higher priority than funding Sanitation Facilities? Vice Versa?

Answer. First, it has always been the policy of IHS to allocate and expend funds in a manner that is consistent with the intent of Congress, which include following the reprogramming guidelines established by the Subcommittee on Appropriations for the Interior and Related Agencies who has jurisdiction over IHS. In keeping with this policy, the IHS would not expend funds for a different purpose from that for which the Congress appropriated the funds without obtaining the proper consultation with the tribes and without following the reprogramming guidelines.

Secondly, as a comprehensive health care delivery program, the IHS is committed to the principles of public health which encompass community-based efforts in disease prevention and health promotion. Within such a program, each component is integrally linked in preventing disease and promoting health, and absolute priority cannot be given to one over another. For example, sanitation projects with their impact on reducing gastroenteritis and dental services with their impact on improving nutrition are integral parts of an overall health promotion and disease prevention effort. In addition, because of variances in disease rates and the services needed by a given community, decisions regarding the services provided within a given service unit are best made at the local level in direct consultation with the affected tribes. In any case, the IHS is limited in changing the base budget allocations to Areas because of statutory restrictions. Any reductions in funding below the requested level would be applied across the board to all activities of the IHS.

Question. What would be the impacts of maintaining IHS funding at the FY 1995 level?

Answer. If IHS funding were sustained at the FY 1995 level, the IHS would absorb \$91.3 million which includes maintaining current service levels, the cost of pay raises, and the elimination of the Indian Self-Determination Fund. In addition, IHS could not fund staffing for newly constructed facilities. These effects, combined with the increasing AI/AN population, would seriously affect the provision of health care to AI/ANs.

Absorbing the inflation and pay raise costs would have the greatest impact on health services, because over 80 percent of these costs are from the health services programs. The result could be a decrease in the services provided. For example, in the Hospitals and Clinics line item, approximately 2,800 people in need of hospital admission could be denied care, and ambulatory services would be reduced by approximately 120,000 visits. The reduction in these services will disproportionately affect pregnant women because they constitute 21 percent of all admissions to IHS hospitals and elders who constitute another 12 percent of all

admissions. In addition, women of child-bearing age, children, and elders will be affected by the reduction in ambulatory services because the majority of ambulatory visits are for prenatal, well-child, and adult chronic disease management.

The elimination of the Indian Self-Determination Fund would mean the IHS would not be able to fund new or expanded 638 programs.

For Facilities, the impact of maintaining the Maintenance and Improvement (M&I) funding at the FY 1995 level would be a reduction of approximately 3 percent (\$1,050,000) in projects to reduce the Backlog of Essential Maintenance and Repair (BEMAR).

Question. Over the coming weeks, will you provide for me and my staff more detailed information on your specific priorities assuming an overall reduction in IHS funding? The Service should consider possible reductions of up to 10% below the FY 1996 request level.

Answer. For Services, a reduction of this magnitude would have a dramatic effect on the IHS' ability to provide care and would further erode the services to AI/ANs, for whom health care expenditures are already less than 50 percent of what is spent on the U.S. general population. To determine specific priorities in the event of a reduction in funding for the IHS would require a comprehensive review of the IHS programs in consultation with the tribes. This review would be undertaken with the intent of maintaining the IHS' primary core of preventive and public health services and access and availability to the most basic curative services.

For Facilities, a 10% reduction in the FY 1996 budget request would make it necessary to shift funds from the Maintenance and Improvement (M&I) activity to the Facilities Support sub-activity to ensure that staffing levels do not fall below critical levels.

Question. For each of the programs might be cut should funding be reduced below the request level, what would be the impacts in terms of fewer patient visits, less sanitation facilities constructed, etc.?

Answer. The following examples indicate the impact of the IHS funding level being reduced to 10 percent below the FY 1996 request:

- hospital admissions would be reduced from approximately 75,000* to 67,500
- ambulatory visits would be reduced from approximately 5,000,000* to 4,440,000
- dental services would be reduced from approximately 2,200,000* to 1,980,000
- mental health and social services access would be reduced from approximately 223,300* patients to 200,000
- adult/family alcohol and substance abuse outpatient days would be reduced from 674,995 to 606,000
- PHN home visits would be reduced from approximately 480,000* to 432,000
- the number of CHR patient contacts would be reduced from approximately 4,210,000* to 3,790,000
- approximately 300 existing AI/AN would not receive essential sanitation facilities and approximately 1,440 existing AI/AN homes would not receive necessary upgrades to their existing sanitation facilities.

- the following facilities would not be surveyed for environmental health compliance, placing patients, visitors and employees at risk for injury and illness, and jeopardizing accreditation status which could result in potential closure: 4 hospitals, 20 health centers, 1 school health center, 31 health stations, 5 dental stations, 31 medical X-ray units and 90 dental X-ray units.
- the ability of the IHS to maintain accreditation through the Joint commission on Accreditation of Healthcare Organizations will be compromised because of limited staff to address institutional environmental health concerns, reduced maintenance and repair, and reduced record keeping. The ability to collect third party dollars will be jeopardized.

*Base figures are estimates based on average cost of services.

LEVEL OF NEED

Nowhere in the budget request does the IHS propose to fund 100% of health care needs.

Question. What are the unmet needs in IHS programs by major activity?

Answer.

ACTIVITY	LNF	FY 1995 FUNDING	ADDITIONAL
			\$\$ REQUIRED FROM ALL SOURCES TO MEET 100% LNF 1/2/
Hospitals & Clinics	75%	\$823,866	\$275,000
Dental	44%	\$57,518	\$73,000
Mental Health/Social Services	37%	\$36,448	\$61,852
Alcohol and Substance Abuse	53%	\$91,352	\$80,648
Contract Health Services	72%	\$362,564	\$130,000
PHN	33%	\$23,505	\$47,700
Health Education	47%	\$8,244	\$9,300
CHR	18%	\$43,955	\$213,000
Urban	22%	\$23,349	\$82,800
Environmental Health Support	44%	\$40,314	\$51,309
Sanitation Facilities Construction Funds	46%	\$84,889	\$100,611
Facilities Support	47%	\$38,294	\$31,040
Maintenance and Improvement	78%	\$38,334	\$16,737
Health Care Facilities	21%	\$27,822	\$107,770
TOTAL		\$1,705,454	\$1,280,767

Dollars in millions.

1/ This is an annual requirement, but could be increased over 5 years for effective planning and distribution;

Additional costs would recur annually to continue this level of service.

2/ Funding could be provided from both IHS and non-IHS sources.

3/ Based on 10-year plan revised in FY 1995.

4/ Based on 5-year health facilities planned construction budget.

Identification of unmet need requires that "need" be defined. The IHS has defined need as the staff required to provide a certain level of access to primary clinical and preventive services. These staff requirements are quantified and available resources compared

to the target staff level as defined by IHS. The staffing requirements are based on known manpower standards, programs describes in literature of health care administration, and 40 years of experience in health services delivery.

The IHS uses the Resource Requirements Methodology (RRM) to calculate health services available at other service units. Estimates for each service unit have been developed and these estimates are used to calculate the level of need funded (LNF). The LNFs assist the IHS in distributing funds to those service units providing a lower level of health services relative to other service units when funding for such purposes has been available. Historically, IHS funds have been distributed to where IHS facilities are located, i.e., primarily at the oldest and largest reservations, or where Congress has directed. Relatively newer and smaller tribes (or those terminated and re-recognized) are generally not funded as well relative to larger tribes. Since increases in IHS appropriations over the years have been used primarily to maintain current service levels at each service unit, any inequities among the service units that have built up over time tend to persist. When Congress has made funds available to alleviate inequities among service units, the RRM has been used in an attempt to distribute these funds more equitably. However, since funds have not been provided for this purpose in recent years, the IHS has not updated the RRM since 1992.

STAFFING

The Administration has requested a total of 15,235 FTEs for IHS in FY 1996, a net reduction of 230 FTEs below the FY 1995 level. Setting aside the staffing of new facilities and other additions, actual net FTE reductions are to be 417 FTEs. The request indicates these reductions will be made at IHS headquarters and area offices, as well as through increased use of contracting, compacting, and university affiliations.

Question. Could you be more specific about where these reductions are to be taken? How will functions be consolidated or eliminated to allow for these FTE reductions?

Answer. The IHS could use FTE from multiple sources to support the 230 FTE reduction and ensure adequate staffing levels at new facilities. It is estimated that approximately 134 FTE positions will be saved in FY 1995 from tribal compacts and contracts at service units. As a result of buyouts, there also will be 134 staff leaving IHS from administrative and management positions in Area offices and Headquarters in FY 1995 and an estimated 74 staff in FY 1996. And there are approximately 250 to 350 staff currently on temporary or term appointments at service units that will be filled through the use of personal services contracts.

Question. Is the actual FY 1995 FTE level 15,465, or is it somewhat less?

Answer. The projected FTE use in FY 1995 as of March 1995 is 14,975; however, we expect that recruitment activity in the spring and summer to raise actual FY 1995 use to be approximately 15,100. The FY 1996 FTE estimate for IHS is actually an increase over current projections for FY 1995 usage.

Question. What exactly is a "university affiliation?" In what areas will such affiliations be increased? Such affiliations lower FTE levels, but do they impact actual costs one way or the other?

Answer. An example of one type of affiliation with a university is the relationship between the IHS and the Johns Hopkins University Center for Native American Health Care. IHS staff serve on the Center's Governing Board and are involved with

policy making and contribute technical assistance and expertise to the Center's staff. The Center performs research that is helpful to the IHS mission of improving health care for Native Americans. IHS has a similar relationship with the Mayo Clinic in Rochester, Minnesota and the University of Oklahoma and University of New Mexico Prevention Centers. This sort of affiliation has been of considerable benefit.

Interagency Personnel Agreement (IPA) has also been used to obtain assistance in particular disciplines or areas of expertise through affiliations with universities. IHS pays all or part of the salary of a university faculty member, who agrees to spend a specified percentage of time working on IHS projects. The salary cost is the same as if this were a government hire, but the government does not have to pay for benefits and the agreement can be terminated at any time. Such agreements allow IHS to obtain high-quality professional consultants at a reasonable cost. This mechanism is most useful for disease prevention and control programs that require a high level of specialized knowledge, such as infectious disease, cancer, diabetes, renal disease, mental health, etc.

NATIONAL PERFORMANCE REVIEW

I understand that the IHS has chosen to allocate National Performance Review related reductions on a pro-rata basis.

Question. Does this methodology account for differences between areas in circumstances such as health care needs, amount of compacting, etc.?

Answer. The IHS has not allocated reductions on a pro-rata basis. For example, the IHS has redeployed FTE from Headquarters and Area offices to new facilities providing health services. Also, the IHS has reallocated FTE from Areas that have compacted for health care services.

The Administration agreed to allow the IHS 1,098 more FTEs than the original target for streamlining.

Question. Are reductions being taken by the IHS now roughly comparable to reductions being taken by the Department of Health and Human Services as a whole?

Answer. In FY 1996, IHS will have a 1.5% FTE reduction from the FY 1993 baseline, compared with a 4.9% reduction for HHS and a 4.6% reduction for PHS during this same time frame. In FY 1996, the FTE reduction for IHS is 230, while the FTE reduction for HHS is 868. With the exclusion of the Social Security Administration, IHS has 25% of the total Department staff. FY 1997 and future FTE reductions for the individual PHS Agencies have not been determined at this time.

PRIVATE THIRD PARTY COLLECTIONS

The budget request estimates third party private collections will be \$33,784,000, a slight increase over the level estimated for FY 1995. While this Committee is pleased that the request does not rely on fanciful estimates of third party collections, we are interested to know what the IHS is doing to maximize collections.

Question. Do you have a rough idea whether private third party collections in FY 1995 will be above or below the estimate?

Answer. At this time, indications are that collections will be below the FY 1995 estimate of \$33,556,000. Based on preliminary information, records show collections at \$6,500,000 for the first quarter of FY 1995. This compares with collections of \$4,328,350 for the first quarter of FY 1994. In FY 1994, total collections were \$22,197,726.

Question. Using FY 1995 budget levels as a frame of reference, what level do you believe third party collections will reach once collection systems are fully installed and operational?

Answer. Collections systems are operational in every facility. However, no facility is fully operational and maximizing collections. We are not billing 100 percent of all potential bills for collections. In addition, we are not collecting at full potential in any of our operations. We do not have the staffing or capacity in each facility to maximize our operations.

The recommendation has been made to contract under the Health Care Recovery Services Contract for an analysis and assessment of our current capacity to improve efficiency and effectiveness of existing operations or for determining what and how we can increase billing and collection.

It is estimated that such a contract would result in an improved admissions process, account management and followup, coordination of benefits, recovery of claims, reconciliation and resolution of claim disparity, and how to improve training, coding, pricing/rate determination, and the development of staffing standards with workload correlation. These improvements could result in an increase in private insurance by at least 25 percent and at least an 8-10 percent increase in Medicare/Medicaid collections.

Question. Why is the estimate for FY 1996 collections only marginally higher than the estimate for FY 95? Do you believe collections have reached a maximum level, or is the IHS simply bruised from its experiences before this Committee in previous years when overly optimistic collection estimates were used as a budgeting gimmick?

Answer. The IHS is predicting only one percent growth between FY 1995 and FY 1996 because most of the gains through increased collections efficiency will have already been realized and because of the uncertainty of the effect of the self-governance process on third-party insurance collections. While self-governance will not decrease the amount of health insurance collected on behalf of Indian people, it may well shift insurance collections from Federally-owned facilities (whether IHS or tribally run) to tribally-owned facilities (which are not counted in the IHS budget).

Question. What is the current policy governing how funds collected are allocated by the IHS? Are 100% of collections returned to the originating facilities? Has this proved to be a useful incentive for facilities to improve collection systems?

Answer. The Public Law 100-713, the Indian Health Care Improvement Act Amendments of 1988, states that collections from private insurance vendors are to be returned to the service unit. The IHS returns 100 percent of collections to the originating facilities, which is a useful incentive for facilities to improve collection systems.

Question. Does a policy under which all collections are returned to the originating facility have the effect of enriching relatively well-off facilities at the expense of other facilities that may have a greater need for additional funding?

Answer. It is true that those facilities with improved systems and a higher number of patients with private insurance will bill and collect more revenue, but not at the expense of other facilities. The IHS is an integrated health care delivery system where each component is interdependent upon the other and benefits directly and indirectly regardless of which collects the greater amount in private insurance. For example, the smaller facilities are able to refer patients to the larger facilities where they

benefit from the more specialized care and equipment. In addition, with the staff hired from the collections, the larger facilities are able to provide satellite programs at the smaller facilities.

Question. Is the policy governing disposition of third party collections completely administrative, or is your flexibility limited by the authorizing statute?

Answer. Disposition of private third party collections are governed by statute (sec. 202(d), 207, 813 of the Indian Health Care Improvement Act, P.L. 94-437, as amended). Most collections become available to the IHS or tribal program that provides the service while some funds are deposited into the Catastrophic Health Emergency Fund.

Question. What is the history of this policy?

Answer. On November 23, 1988, the President signed into law P.L. 100-713, the Indian Health Care Improvement Act Amendments of 1988, allowing the IHS to bill private health insurance companies. Disposition of collections was also provided for in this Act.

Question. For Indian people that live in the vicinity of an IHS facility, are there any incentives to purchase private insurance?

Answer. Yes, because of the limited and rationed care, the Indian people supplement what IHS provides with insurance. In addition, because of the very restricted CHS regulations, Indian people need additional coverage from the private sector when affordable. However, despite these incentives, it is believed that a number of American Indians employed by the IHS opt not to participate in the Federal Employees Health Benefits.

MEDICARE/MEDICAID REIMBURSEMENTS

The budget request outlines the success that the IHS has experienced in gaining and maintaining accreditation for its facilities. Indeed, IHS facilities have gained "Accreditation with Commendation" at 2-3 times the national average. Much of this success is due to the mandatory use of Medicare and Medicaid reimbursements to improve facility conditions.

Question. As Medicare and Medicaid reimbursements continue to rise, is there a point at which the IHS would rather spend some of those funds on additional medical services or some other purpose apart from accreditation-related work? Do you feel the IHS has sufficient flexibility in how these funds are allocated?

Answer. While all funds are used for accreditation-related work, one must remember accreditation is related directly to quality of care provided. To maintain accreditation, funds from these resources are used to provide direct medical services through additional staff and contracts. Accreditation is directly related to providing adequate medical services at a quality level of care.

Medicare and Medicaid reimbursements in FY 1996 are estimated to increase slightly to \$176,536,000.

Question. Do you have a rough idea whether Medicare and Medicaid reimbursements in FY 1995 will be above or below the estimate of \$175,000,000?

Answer. The projections are consistent with the estimates provided.

Question. Using FY 1995 budget levels as a frame of reference, what level do you believe Medicare and Medicaid collections will reach once collection systems are fully installed and operational?

Answer. We believe that the continued automation of the billing process will continue to produce some increases in revenue. Tribes operating under self-governance compacts will be more likely to bill HCFA and state Medicaid bureaus directly rather than through the IHS; therefore, the overall collections totals shown in the IHS budget will decrease for IHS facilities.

Question. Why is the estimate for FY 1996 collections only marginally higher than the estimate for FY 95? Do you believe collections have reached a maximum level, or is the IHS simply making certain its estimate is not perceived as a budget gimmick?

Answer. The IHS is predicting only one percent growth between FY 1995 and FY 1996 because most of the gains through increased collections efficiency have already been realized and because of the uncertainty of the effect of the self-governance process on Medicare and Medicaid collections. While self-governance won't decrease the amount of Medicare/Medicaid collected on behalf of Indian people, it may well shift collections from federally-owned facilities (whether IHS or tribally run) to tribally-owned facilities (which are not counted in the IHS budget).

Question. What is the current policy governing how funds collected are allocated among facilities or service units? Has this proved to be a useful incentive for facilities to improve collection systems?

Answer. The current policy is to return funds collected to the respective service units where the services were provided. Funds are used to correct and maintain accreditation, and this has been a real incentive to improve collection systems.

Question. Is the policy governing disposition of collections completely administrative, or is your flexibility limited by the authorizing statute?

Answer. The disposition of collections is governed by Title IV of the Indian Health Care Improvement Act. These provisions enhance our ability to maintain accreditation and provide a higher standard of care to AI/ANs.

Question. What is the history of this policy?

Answer. This policy was developed as a result of Title IV of P.L. 94-437, the Indian Health Care Improvement Act, as amended, which authorizes IHS facilities to receive payments for care provided to eligible Indian Medicare and Medicaid patients.

SELF-GOVERNANCE

With the increase in the number of compacting and contracting tribes, it will get tougher and tougher to maintain the momentum towards self-governance while meeting the needs of tribes that the IHS serves directly.

Question. Would you elaborate on how the IHS intends to manage this difficult situation, assuming that staffing levels and budgets will remain extremely tight?

Answer. The IHS is currently under going a thorough review and analysis on how to restructure and downsize and still maintain the ability to carry out its responsibilities to tribes receiving direct health services. The negotiations of future tribal shares

for tribes under title I and III will be based on the ability of the Agency to maintain this aforementioned capability. Consequently, the funding of future tribal shares may be done on an incremental basis.

Question. Do you have sufficient baseline measures by which to assess the performance of those tribes that have entered into compacts?

Answer. The IHS does not have sufficient baseline measures data at this time to assess performance. We have established a joint tribal and IHS baseline measures workgroup that will develop the minimal data requirements that is needed to assess performance.

Question. Are you confident that the IHS will be able to monitor the quality of health care delivered by self-governance tribes? Is this a function the IHS intends to continue to perform?

Answer. The Self-Governance legislation is not clear on whether the IHS is still responsible for monitoring the quality of health care for self-governance tribes. The self-governance tribes take the position that this responsibility has been transferred to them.

INDIAN HEALTH DESIGN TEAM/SELF-GOVERNANCE POLICY

The IHS recently presented to tribes the preliminary recommendations of three working groups formed to examine key issues in the transition to self-governance.

Question. What has been the reaction thus far to the working groups' proposals on residual policy, user populations and, tribal share allocations?

Answer. Based on the verbal and written responses we have received from tribes, the reactions are mixed. There is no clear tribal consensus on any of the various proposals.

Question. Will the recommendations of the Indian Health Design Team be available by June as planned?

Answer. The plan is scheduled to be released in early July.

STAFFING OF NEW FACILITIES

\$10 million is requested to staff new facilities. This level of funding would allow operation of the Alaska Medical Center and the Hays Health Center for three months. The Alaska Center is to be staffed at an 85% level for the next four years, while Hays will be staffed at an 85% level for only one year.

Question. Is the money requested for the staffing of new facilities sufficient to staff all new facilities at an 85% level? If not, when are these facilities scheduled to achieve the 85% level? Is the request for staffing sufficient to keep all facilities on a schedule to achieve the 85% level within three years?

Answer. The funding for Hays Health Center will provide 85% staff during FY 1996. The IHS target for the Alaska Medical Center is to gradually achieve 85% staffing levels by FY 1999. Increased staff and funds are intended to be requested in each year through FY 1999.

Question. Why has 85% staffing been chosen? Is this a cost-based number, or is there programmatic justification for operating a medical center at this level? At 85% staffing, what health services are not available? Are certain, more specialized services not provided, or are services scaled back across the board?

Answer. First, the IHS recognizes that the investment of millions of dollars in the construction of critically needed health care facilities should not be wasted by not having the level of resources required to fully operate them when they are completed. Therefore, the resources required to staff and operate newly constructed hospitals and/or outpatient clinics has always been one of the highest budgetary priorities of the IHS; and it the budgetary policy of IHS to request these resources in an amount that will ensure that the newly constructed facilities are capable of providing all of the health care services for which the facility was designed and constructed.

The IHS does not have a written policy that establishes 85 percent as a standard at which full-time equivalent (FTE) staffing levels for newly constructed facilities is requested. However, in the mid 1980's, the IHS wanted to establish uniformity and pursue equity in budgeting for this resource need. The IHS recognized that it was unlikely that 100 percent of the staff, as determined by the IHS Resource Requirements Methodology, could be recruited and actually brought on board during the fiscal year that the facility was completed and that it was also necessary to adjust the FTE during this year based on the number of months that the facility would be in operation.

An informal review of IHS staffing patterns and other personnel management related factors indicated that 85 percent of the total level of staffing needs, adjusted to reflect the number of months of operations, was a reasonable estimate of the number of staff that could be recruited during the first year and ensure that all services for which the facility was designed and constructed was capable of being provided. Accordingly, the IHS has been following this practice in the formulation of its budget. It is also the practice of IHS to request the annualization of these resource in the subsequent year.

Question. Why is the Alaska Center projected to operate at an 85% level for four years, while the Hays Center is to be operated at that level for only one year? Will the Hays Center go to 100% staffing in FY 97?

Answer. The IHS requests staff for all new health facilities to bring their total staff up 85% of Level of Need. We are phasing in the request for the Alaska center over four years because of the large number of FTE required. We plan to request the 85% LNF staffing for the Hays Center in 1997 to annualized the staff requested in the FY 1996 budget request.

The table entitled "History of the FY 1996 Request" indicates that OMB removed nearly all funding for staffing of the Hays facility.

Question. Why was this funding not requested? What will be the impact of funding staffing for the facility at the lower level?

Answer. OMB reduced the total amount of funding requested for IHS but did not direct the distribution of this decrease. In negotiating over the distribution, OMB, HHS, and IHS agreed that the Hays facility would be completed with funds requested in FY 1996, as IHS had originally requested, but that the Harlem facility would be completed by reprogramming available funds from other completed facilities. The level of staff requested for Hays is 85% of the Level of Need for the portion of FY 1996 during which the new facility is expected to operate. In FY 1997, IHS plans to request additional staffing costs for Hays allowing it to operate at 85% of Level of Need for a full year.

ALTERNATIVE HEALTH CARE DELIVERY

The request states that "the IHS encourages development of alternative health care delivery approaches, including tribal

health maintenance organizations, managed care systems, and the use of fiscal intermediaries." I assume this is due to the savings that might be achieved.

Question. How specifically does the IHS encourage such alternatives? Are specific incentives or programs in place, or is the IHS simply available to support a tribe that may want to pursue an alternative approach?

Answer. The IHS primarily plays a supportive role. However, alternative health care delivery system demonstration projects have been employed in certain areas where traditional delivery approaches have not been feasible. These include the Pawnee Benefits Package Program (a federally administered benefits package), the Pascua Yaqui Health Care Plan (an HMO-based plan), and the Suquamish Tribe Benefits Package (use of an alternative fiscal intermediary).

As tribes sign compacts to manage their own health care programs, many are looking at various options for health care delivery; the IHS fully encourages these activities. The IHS Managed Care Committee provides regional workshops, open to both Federal and tribal programs, which give details on utilizing managed care data and fiscal intermediaries. The IHS has also been involved in discussions and work groups with the Health Care Financing Administration regarding the inclusion of American Indian populations in State Medicaid demonstration programs.

PROGRAMMATIC INCREASES

Your request identifies several "areas of special concern" such as child abuse, elderly care and women's health care. The request includes programmatic increases in each of these areas.

Question. What will we get in return if these additions are funded?

Answer. We will improve the health status of Indian people. Increased cervical and breast cancer screenings will improve mortality rates. Complications of pregnancy will decrease with increased and early intervention. Immunization rates among elders will improve, thereby reducing infectious diseases that cause costly illness. Health resources will be directed to the specific portion of the Indian population at greatest risk.

The request highlights several health problems that affect Indian populations at higher rates than the general population, such as diabetes, tuberculosis, liver disease, etc.

Question. Why are programmatic increases not requested for these areas but included for the others?

Answer. The programmatic areas given priority this year were selected because there is a specific need in the Indian population for focused efforts in these areas. The AI/AN population is aging and there are few specialized services for this population in most AI/AN communities. The IHS has also studied the impact of offering specialized services for women and discovered that as the utilization of appropriate screening services increases and with the availability of these specialized services, morbidity decreases. Child abuse prevention activities have also been provided through the general primary care program. There is convincing evidence to support the efficacy of focused services in this area. Diabetes, TB, and alcoholism have received special attention and resources in prior budgets. These program areas are showing slow, steady improvement with this additional attention. With each increase in funding, the effect is multi-dimensional because of the health team concept used in the delivery of health care in the IHS. The areas selected in FY 1996 would benefit in

the same manner that diabetes and other special emphasis programs have benefited the population.

IMMUNIZATION PROGRAMS

Immunization rates for Indian children exceed the rate of other U.S. children by 93% to 71%. This is an impressive statistic.

Question. To what does the IHS attribute its success in this area?

Answer. Success is due largely to a comprehensive program of: Public Health Nursing review of patients' charts; reminder and recall notices to parents; notation of immunization due filed in child hospital records; and Community Health Representatives home visits, where shots are given or message delivered that shots are due. Because IHS provides free care to eligible AI/ANS including personal prevention services like immunization, access barriers which individuals may experience in fee for service practice are not a factor.

Question. What lessons can be learned from the IHS's success?

Answer. Conduct periodic patient record check for incomplete immunization and follow up with aggressive reminder/recall notices, notations in charts and personal visit to patient home.

Question. To what extent was the IHS consulted in the design of the Administration's Vaccines For Children program? Do you see any problems inherent in the structure of this program, particularly in light of Federal funding restraints?

Answer. The IHS was consulted in the design of the Vaccines For Children program by participation in work group conference calls conducted by the Centers for Disease Control and Prevention and Health Care Financing Administration during the start-up year. The IHS is working with the CDC to address any operational problems that are identified. However, the IHS has succeeded in assuring high immunization rates in the population served by IHS providers. The Vaccines For Children will assist in maintaining this distinguished record.

\$1,397,000 is requested for the Hepatitis B and the Hemophilus Influenza Type b immunization programs, a slight increase over the FY 1995 funding level.

Question. Shouldn't the cost of the Hepatitis B program be dropping as the adult population becomes fully immunized? If so, what other immunization activities are being financed by these savings?

Answer. Adult immunization to Hepatitis B and Hemophilus Influenza Type b are not near fully immunized levels. Increased funds are needed to provide vaccine to more adults. Other immunization activities include increased numbers of children receiving the vaccine for Hepatitis B as recommended by the Advisory Committee on Child Immunizations. This has not always been a required vaccine for Indian children outside of Alaska.

FETAL ALCOHOL SYNDROME

The FY 1995 budget included \$128,000 for Fetal Alcohol Syndrome work at the University of Washington.

Question. Is funding to continue this work included in the FY 1996 request?

Answer. The University of Washington FAS research project has been funded as a Congressional earmark and administered as a

contract with the University of Washington. The collaboration with IHS and integration with Alcohol and Substance Abuse program objectives has been minimal at best. The IHS would like to see the continuation of FAS research under an expanded contractual arrangement. Therefore, we hope for consideration for a more competitive process in purchasing these services.

INFANT MORTALITY

The infant mortality rate in indian country has dropped to a level approaching the rate for the U.S. general population. The request states that further improvements will depend upon "increased emphasis on coordination of interagency and tribal resources to improve community Maternal and Child Health (MCH) programs, especially those addressing prenatal care and the fetal alcohol syndrome, strengthening of quality assurance and surveillance in order to identify areas of weakness and high risk subsets of the population; and assessment of the outreach... needs."

Question. How are these additional needs addressed in the FY 1996 request?

Answer. The surveillance and monitoring requirements for strengthening quality assurance will be addressed through the implementation of the epidemiology centers. The pre-natal services will be strengthened through the women's health focus since a major portion of that activity will focus on reproductive health for both mothers and children. The epidemiology centers will provide the assessment of high risk subsets of the population and outreach effectiveness.

EMERGENCY MEDICAL SERVICES

The request states that the death rate among Native Americans due to accidents is 2.6 times that of the rest of the U.S. population.

Question. Why is no programmatic increase requested for injury prevention?

Answer. The Indian Health Service received programmatic increases in Fiscal Years 1993 (\$1.5M), 1994 (\$0.5M), and 1995 (\$0.5M) for injury prevention and it was decided that further increases would not be requested at this time due to competing priorities. Although this base funding of \$2.5 million permits maintenance of current injury prevention efforts, IHS managers continue to develop internal and external partnerships to secure additional resources to support needed injury prevention initiatives. An example of internal collaboration is the project between the IHS injury prevention and alcohol and substance abuse programs addressing drunk driving, known as the "None for the Road" Campaign. Examples of external collaboration include the work between IHS and the National Highway Traffic Safety Administration to increase the use of seat belts and child safety seats among American Indians and Alaska Natives and the agreement between the IHS and the Federal Emergency Management Agency to improve fire safety in Native American communities. Furthermore, IHS continues to work with other PHS agencies to collaborate on injury prevention, an example being the longstanding Intra-agency agreement on injury prevention that exists between the IHS and the Centers for Disease Control (CDC).

Question. How does the accident death rate of Native Americans compare to the general U.S. rural population?

Answer. During the 3-year period 1989-1991, the age-adjusted accident mortality rate (motor vehicle and other accidents) for the American Indian and Alaska Native population residing in the counties in the IHS service area was 86.0 deaths per 100,000 population. In 1990 the age-adjusted accident mortality rate for

the population of All Races residing in all non-metropolitan counties of the entire United States was 45.0 deaths per 100,000 population. Thus the IHS service area rate for 1989-1991 was 1.9 times that of the U.S. All Races non-metropolitan areas rate of 1990. It should be noted that about 40 percent of the IHS service population resides in metropolitan counties based on the 1990 Census.

Question. How much of the high accident death rate among Native Americans is due to higher accident rates as opposed to lack of emergency medical treatment?

Answer. Recently the National Highway Traffic Safety Administration contracted to have studies completed on the efficacy of rural emergency medical services (EMS). The purpose of the studies was to determine what percent of trauma deaths could have been prevented if adequate EMS systems were in place. The studies were conducted in the States of Montana, Michigan and North Carolina and they produced similar and relatively consistent findings that 15-20% of trauma deaths could be prevented with enhanced EMS. EMS is obviously very important; however, emphasis on primary prevention through measures such as use of occupant protection, reduction in drunk driving and improvements in roadway and roadside conditions should be maintained.

INFORMATION SYSTEMS

A \$1.5 million increase is requested for the Information Systems Initiative.

Question. Is this a multi-year program? If so, what is the projected funding profile for the program?

Answer. This initiative is a 3-year test program, the results being implemented Service-wide as funds allow. The projected funding profile is \$1.5 million for each of the 3 years with additional funding being required to provide this technology to more IHS and tribal sites.

Question. Is the initiative designed to increase the quality of health care provided by IHS, or continue delivering the existing level of service in a more efficient manner?

Answer. This initiative is designed to increase the quality of health care provided by the IHS by improving the current IRM infrastructure capability to allow for the development and implementation of telemedicine services, electronic commerce, diagnostic decision support tools, medical literature sources, etc.

Question. Will there be specific, identifiable cost savings attributable to the improved information systems, or will efficiencies simply be improved Service-wide?

Answer. There will be no immediate cost savings attributable to this systems initiative. However, the development and implementation of advanced technologies will allow IHS to expand the capability of its clinical and administrative support systems, which, in turn, will allow for better patient care at reduced cost. The benefits derived from this initiative will be system-wide.

WOMEN'S AND ELDER HEALTH

A \$500,000 programmatic increase is requested for Women's and Elder Health.

Question. What specifically will the \$250,000 increase for Women's and Elder Health provide? Additional personnel to coordinate Women's Health activities? More educational materials?

Answer. The funds for women's health will be used to create a focus among health providers to help ensure that women's health issues are addressed as a component of the overall health delivery system. Funding for actual provision of services for women will continue to be provided from base funding levels.

The \$250,000 for women's health will be used to enhance existing services for women. It will not be used to hire additional personnel, but to provide more breast and cervical cancer screening services and follow up services, and it will allow a greater number of providers to be trained in colposcopy techniques, the use of the electronic Pap smear registry and Pap smear tracking and follow up. The increase will also allow the IHS to provide more women's reproductive health services in general, e.g., family planning and prenatal care, and fund an assessment of the IHS' ability to deliver early, adequate, comprehensive prenatal care.

The \$250,000 for elder health will allow the IHS to conduct training in geriatrics for professionals and para-professionals and will support prevention services focusing on an influenza and pneumococcal immunization and surveillance program for Indian elders. The resources may permit the implementation of a small grant program to promote development of home and community-based services as well.

The IHS will convene a multi-disciplinary group to define the most cost effective method of implementing a geriatric training program for professionals and para-professionals. Such a program would confer credits for Continuing Education Units in geriatrics. In order to minimize the cost, IHS will utilize existing off-the-shelf materials. Such training will be disseminated through video conferencing and videotapes.

A vaccine surveillance program and a registry will be established, using existing patient care databases, to track and promote influenza and pneumococcal immunizations of Indian elders. This program will be incorporated into the existing child immunization program. The IHS will also explore the potential for establishing interagency agreements to augment this activity.

A limited number of small planning grants may be made to tribes on a competitive basis to promote the development of home and community-based care programs for the elderly. These grants will assist the tribe to build the capacity to plan services, seek third party reimbursement and to meet certification requirements.

EPIDEMIOLOGY CENTERS

A \$750,000 increase is requested to support three epidemiology centers.

Question. Are these centers new? Where will they be located? How will they be staffed? Will any facilities be required for these centers?

Answer. The IHS does not have any fully-funded and staffed epidemiology centers at this time. The additional funds will be used to establish centers and expand current activities to fulfill the original mandate of the Indian Health Care Improvement Act for epidemiology centers. The centers will be regional, with one coordinating center in the Southwest at the IHS Headquarters West Epidemiology Branch, and additional centers in the Northwest and Midwest with satellite programs within the regions. Most of the staff are currently in positions with IHS as epidemiologist. There may be a need for transferring additional support staff, such as data managers, sanitarians, or clerical, to the centers. Additional facilities will not be required because the centers will be located within existing IHS facilities.

Question. How much epidemiology work is currently performed by the IHS? Is IHS the most logical agency to conduct this work, or might another agency be able to perform this function more efficiently in conjunction with other epidemiological work?

Answer. Epidemiologic work done by IHS ranges from outbreak investigations, such as hantavirus, to studies of how to best prevent certain cancers, such as breast and cervical cancer. All such work focuses on the prevention and control of disease and is done for that purpose. A great deal of IHS public health activities are based on epidemiology. Following is a brief summary of projects, studies, or investigations performed by IHS epidemiologist.

Hantavirus:

Aberdeen Area (Eagle Butte, SD) - December 1992
Aberdeen Area (Ft. Totten, ND) - August 1993
Billings Area - September to December 1993
Navajo Area - May 1993 to present

Toxic Hepatitis:

Aberdeen Area (Ft. Yates, ND) - 1993

Hepatitis A:

Aberdeen Area (Rapid City, SD) - 1990-1993
Aberdeen Area (Pine Ridge, SD) - 1990-1993
Albuquerque Area (Zuni Service Unit) - November 1994-present
California Area (Hupa Health Assoc)
California Area (Toiyabe Indian Clinic)
Portland Area - 1994
Oklahoma Area (Cherokee County) - September 1994-February 1995
Navajo Area - 1993-present

Hepatitis C:

Portland Area - 1994-1995

Tuberculosis:

Oklahoma City Area (Clinton Service Unit) - February to March 1995
Portland Area (suspected) - 1994
Alaska Area - 1994

Shigella:

Aberdeen Area (Ft. Berthold, ND) - Fall 1994
Albuquerque Area (Jemez Pueblo) - May 1991
Navajo Area (Chinle and others) - Fall 1994-present

Neural tube defects:

Aberdeen Area 1993

Adverse reproductive outcomes:

Portland Area - 1992-1994

Meningococcal meningitis:

Oklahoma Area (Ada and Shawnee Service Units) - April to May 1994
Navajo Area (Crownpoint) - March 1995

Measles:

Navajo Area - 1994-1995
Phoenix Area - March 1995

Chlamydia:

Aberdeen Area - 1993-present
Albuquerque Area - 1993-present
Navajo Area - 1993-present
Portland Area - 1993-present

Prevalence of persons riding with drivers who have been drinking (Aberdeen Area)
 Fetal alcohol syndrome prevalence (Aberdeen Area)
 Maternal substance abuse prevalence (Aberdeen Area)
 Screening rates for breast and cervical cancer (Aberdeen Area)
 Prevalence of scleroderma in Choctaw Indians (Oklahoma Area)
 Study of elevated lead levels in Native Americans using the Miami Indian Health Center (Oklahoma Area)

Many of the IHS epidemiologist are CDC-trained physicians who have experience with and/or are American Indians. The necessary sensitivity to the culture, and perspective on Indian health provided IHS epidemiologist would be lacking from work done by CDC or another entity unless the IHS staff were transferred over to that entity.

Question. Why was this increase added by the Department when it was not requested by IHS?

Answer. Prior to finalizing the FY 1996 IHS budget request to OMB, the Assistant Secretary for Health and the Director of IHS participated in several meetings with tribal representatives, including the National Indian Health Board (NIHB), for consultation on the IHS budget. Based on recommendations of the tribes and the NIHB, the IHS revised its original proposed budget to include an increase of \$750,000 for three new epidemiology centers.

MENTAL HEALTH AND SOCIAL SERVICES

In FY 1995, four Indian communities received funding for sexual abuse programs pursuant to previous Congressional direction.

Question. Do expenditures for these communities correspond to the actual need in Indian country? Are there communities elsewhere more deserving of funding or equally deserving?

Answer. The amounts allocated to the four Indian communities reflect the individual tribal requests to Congress. The original program (Hopi) received a program increase from \$99,000 to \$199,000 after the program began to provide services and need/demands were better identified. Service demands to all programs increased when actual service delivery began, but no additional funds have been made available. The problem of child abuse/neglect, including child sexual abuse are pervasive throughout Indian Country, and all communities have greater need for services than currently exist.

The IHS received \$494,000 in FY 1995 for a child abuse prevention initiative. The FY 1996 request briefly describes how these funds were allocated.

Question. What tribe received the \$200,000 grant for a child abuse prevention demonstration project? How has this money been spent?

Answer. The Ft. Peck Tribes of Poplar, Montana received the three-year IHS child protection grant. The tribe established the Family Advocacy Program, which consisted of a three-pronged approach: emergency domestic violence protection; a guardian ad litem (to advocate for children and speed the processing of child abuse cases) and family advocacy/preservation. In designing the program the tribe conducted a survey of police, courts, tribal social service, the IHS health center and local schools. They determined that a large percentage of workload for these agencies was generated by a small percentage of very dysfunctional families on the reservation and designed the program to break the cycle of dysfunction. An example of a problem family: There were six children and a single mother. Mother drank and had an abusive live-in partner. In the year prior to the grant the IHS clinic documented 146 visits by all family members; mother had been

arrested 14 times; social services had the tribal court remove the children from the home four times; the children had severe school absenteeism (up to 90 days). At the end of the first grant year, this family had made significant change: children had missed no more than 12 days of school; only two police domestic calls; 15 total clinic visits; no new court actions, and only follow-up visits by tribal social services. This family was "graduated" at the end of 18 months, with a 6-month history in which no significant problems have occurred.

Some of the families referred refused to open their doors to the program; some made good, but limited changes; and others, like the example, graduated and then became role models for others in their extended families. The grant has allowed the program to: serve over 40 families in the family preservation effort; conclude nearly 300 child abuse cases in the tribal court; and provide nearly 1,000 nights of shelter to victims of domestic violence.

The availability of the grant funds was announced in FY 1995. There were nearly 40 applicants. The grant will be awarded shortly to another tribe for a term of 5 years.

Question. How does the IHS determine how much of the \$494,000 is to be distributed to tribes under self-governance projects? Is the formula used consistent across all IHS programs? Does the IHS have any way of knowing whether these funds were actually spent on child abuse prevention?

Answer. All mental health/social service funds not specifically earmarked for Congressionally mandated efforts are made available for self-governance tribal shares. The allocation of tribal shares for mental health/social service funds are computed with the self-governance (same) formula. The self-governance guidelines allow tribes discretion in re-programming funds, which previously were tracked for congressionally-specific activities, such as child abuse. The IHS is limited in its capability to monitor the use of tribal shares for child abuse under the self-governance program. The single audit requirement is the only opportunity for tribal reporting of use of funds allocated.

An increase of \$250,000 is requested in FY 1996 for child abuse prevention. This increase is to be split between four or five tribes currently without services.

Question. How will the IHS determine which tribes are to receive this funding?

Answer. The availability of the \$250,000 increase will be announced through the grants process. Four to five grants of \$50,000 each will be awarded. Currently, only four tribes are receiving funds specifically for child sexual abuse treatment (Hopi, Navajo, Washoe and Bay Mills). All tribes without child abuse services will be able to compete for the limited funds.

Question. What specifically will the \$250,000 increase provide? Additional personnel, more educational materials, etc.? Will the IHS maintain a capability to monitor how these funds are used, and whether they have made an impact?

Answer. The \$50,000 per award will enable the grantee (tribe) to fund at least one mental health/social service professional to provide child abuse services. The grants process will enable IHS to better track program expenditures and outcomes.
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Question. Given that this request was significantly reduced in the budget formulation process, would funding the request create

a dysfunctional program? Would there be sufficient coordination with Bureau of Indian Affairs efforts in this area?

Answer. Use of child abuse service funds under the grant process would enhance existing tribal mental health/social service programs and initiate child abuse services for tribes currently without services. Every effort will be made to coordinate these efforts with the Bureau of Indian Affairs.

CONTRACT HEALTH CARE

The request states that in FY 1994, 760 high cost cases were funded from the Catastrophic Health Emergency Fund. At a minimum of \$16,000 per case, the total amount required to fund these cases must be more than the \$12 million level authorized for the CHE Fund.

Question. Does the average amount required from the Fund exceed its authorized limit? Does the fund only pay costs in excess of \$16,000 per case?

Answer. The Fund only reimburses claims above the threshold established for CHEF. In FY 1994, the threshold was \$16,000. In FY 1994, over 1,019 cases were submitted to CHEF for reimbursement of which 259 were not paid because the fund was exhausted. Amendments to the legislation require that the threshold be increased annually according to the percentage change of the consumer price index (CPI) for medical care expenditures. In FY 1995, the CPI increased by 5.4 percent thereby increasing the CHEF threshold to \$16,900.

ALCOHOL AND SUBSTANCE ABUSE

The request indicates that a review of regional youth treatment centers is being conducted.

Question. When will this review be complete? Are any preliminary results available that might help this committee assess the performance of the regional centers?

Answer. The evaluation of the regional youth treatment centers will be completed the latter part of FY 1996. Although the contract was awarded at the end of FY 1994, a protest was lodged which resulted in a delay of work until late February 1995. Sufficient preliminary results to be of use to the committee are not available at this time.

The request asserts that IHS is coordinating closely with BIA to implement alcohol and substance abuse programs.

Question. What related programs are funded by the BIA, and how much funding has been requested for these programs in FY 96?

Answer. The BIA spent \$4.6 million for alcohol abuse with 93% going to BIA schools. The FY 1996 budget is expected to remain the same.

As part of the IHS and BIA coordination, a social detoxification function was developed in five BIA detention centers at \$100,000 each. Funds are currently supporting efforts at five centers located at Ft. Peck, Montana; Pine Ridge, South Dakota; Eagle Butte, South Dakota; and Tuba City and Chinle, Arizona. If additional centers are built at Ute Mountain in Colorado and at Sac and Fox in Stroud, Oklahoma, FY 1996 funds of \$100,000 will be allocated for each program site. IHS/BIA coordination on the Therapeutic Boarding School model is ongoing at Wahpeton, South Dakota.

\$240,000 is included in the base for the Squaxin Island Tribe's residential treatment unit.

Question. What is the history of this facility? How large is it? What population does it serve?

Answer. The Squaxin Island Tribe under a self-determination contract operated three components of an alcoholism program; outpatient, prevention, and adult rehabilitation with an approximate budget of \$911,000. Some of the Squaxin Island treatment services were converted to residential treatment services in 1995. This inpatient program has a capacity for 24 adult co-ed beds, although 18 co-ed beds are available. The residential program is currently operating on \$249,217 under a self-governance compact at Elma, Washington. The service area and user population of 70,553 in 1994 included the States of Washington, Oregon, and Idaho with all 40 tribes eligible for care. The tribes' ambulatory rehabilitation and aftercare services are provided at Shelton, Washington.

Within Urban Health, \$3.2 million is requested for substance abuse programs.

Question. Are these funds used to provide direct or contract services? Don't most urban areas have substance abuse programs available to Indian populations? Why is a separate IHS program necessary?

Answer. These funds are used to provide ongoing direct outpatient and inpatient programs that target services to tribal members, male and female, who were relocated to urban environments by the BIA in 1950s-1970s. In the late 1970s and early 1980s, urban and tribal alcohol programs were transferred to the IHS from the old National Institute of Alcoholism and Alcohol Abuse. The transfer was part of the IHS initiative to combat high rates of alcoholism and related problems among Indian people.

Indian people living in urban settings historically have not accessed community alcohol and substance abuse programs for a variety of reasons. These include financial barriers, cultural barriers, language barriers, and a lack of health insurance. The results have been continued significant alcoholism rates among urban Indians. The urban alcohol and substance abuse prevention and treatment programs are funded as a separate program because of this ongoing health need.

URBAN HEALTH

A \$1,200,000 increase is requested for Urban Health, though this increase was not in the original budget request submitted by the Indian Health Service.

Question. Why was this request added by the Office of Management and Budget?

Answer. The Office of Management and Budget did not add funds for this request. The request for these funds resulted from a meeting between the Assistant Secretary for Health and tribal organizations, which occurred between the time the Department requested funds for IHS and the FY 1996 President's budget was finalized.

HIV/AIDS

The request states that nearly all of the IHS service population has heard or seen an AIDS education message, but that such messages have "had little observable effect on the sexual behavior or the perceived risk by the individual community member."

Question. Why has the IHS AIDS education program not been successful? Why should we continue to fund this program if it has not been successful? Do you propose to make any changes in the program in FY 1996?

Answer. The rates of HIV infection and AIDS reported in AI/AN populations have in general been exponentially lower than those for the Nation. The Year 2000 Objectives for the Nation clearly outline where the nation should be regarding the HIV/AIDS epidemic. The IHS has met all of the recommended Year 2000 objectives for HIV/AIDS.

The IHS Health Education Program has embarked upon a national initiative to present HIV education within the context of comprehensive school health education for American Indian/Alaska Native youth enrolled in grades K-12. The IHS has developed draft HIV curriculum materials for grades K-6, teacher training materials, community guidelines, and illustrations that are age/grade appropriate, medically/scientifically correct, and adaptable to tribal (local) specific needs.

Question. How long has this program been operating? How much has been spent on the program?

Answer. The IHS AIDS Education Program has been in operation since 1990. Approximately \$500,000 has been spent annually for this program for a cumulative total of \$2,500,000 over 5 years (including funding for this current fiscal year) to provide education to a service population of approximately 2 million. This is about \$.25 per year per eligible individual.

COMMUNITY HEALTH REPRESENTATIVES

The request states that most compacting tribes have not chosen to use the national Community Health Representative reporting system.

Question. Does this mean that these tribes have not chosen to continue funding CHR-like programs? If so, why have tribes not deemed this to be a priority?

Answer. The majority of Self-Governance compacting tribes have elected to continue reporting in the Community Health Representative Information System (CHRIS). Of the 42 tribes under Self-Governance compacts, 25 of their CHR programs find value in continuing to voluntarily report, as determined from the latest national data output from the period ending March 1995. This includes large Self-Governance tribes, such as the Cherokee Nation of Oklahoma.

The fact that 17 programs elected not to use the national CHR reporting system does not mean those tribes ceased to operate a CHR program. The Indian Self-Determination amendments transfer accountability from the IHS to the tribes to monitor and evaluate program effectiveness. These tribes have the option of establishing an internal, self-contained form of accountability. Some have trained the CHRs to participate in standard patient medical record keeping, similar or equivalent to the IHS Patient Care Component.

Most Self-Governance CHR programs continue to deliver field health care services unaffected by their changed status relative to the IHS. Two programs - one in Alaska; one in Oklahoma - are known to have been disbanded in order for that tribe, and Alaska Native organization, to shift resources to fund more primary health care. Most tribes and Alaska Native organizations remain committed to retaining CHR services, which are known to vastly increase the accessibility and effectiveness of primary health care for high risk and under-served members of their populations. Tribes such as the Chippewa Cree of Rocky Boys, Montana, have used Self-Governance

as an opportunity to enhance CHR program functioning by integrating the CHRs in the Patient Care Component charting, and assigning them roles as triage intake personnel in the clinic in addition to normal field home visiting duties.

INDIAN HEALTH PROFESSIONS

The request indicates that the IHS intends to implement certain Title 38 "special pays" in FY 1995 to enhance recruitment and retention of health care professionals.

Question. Has the IHS implemented these authorities yet?

Answer. The IHS has not implemented these authorities yet. Preparations are under way and we anticipate offering IHS physicians the opportunity to convert to the Title 38 system in August 1995.

Question. What is the estimated cost of fully implementing these authorities? If such costs will be offset in any way, in what programs will such savings occur?

Answer. We estimate that the cost of fully implementing these authorities for physicians and nurses will be approximately \$43,000,000. In FY 1996, implementation will be a decision made on a facility-by-facility basis. The driving factor will be the availability of funds to the facility. If a facility manager decides to implement the Title 38 authorities, he/she will have to determine the budget area in which offsets will occur. This will vary from facility to facility.

The table on page 93 of the request indicates that the number of new loan repayment awards will increase to 275 in FY 1996.

Question. Why does this increase not show up as a programmatic increase in the request for Indian Health Professions?

Answer. The programmatic increase was not requested for Indian Health Professions to fund the additional loan repayment awards. However, the programmatic increase reflected on page 93 takes into account that the cost of doing business in FY 1996 using FY 1995 IHP appropriations as the base and computes an increase by employing the medical component of the Consumer Price Index (5.4% in FY 1996). Thus, the medical component of the Consumer Price Index allows medical programs to maintain some relativity to inflation. The additional loan repayment awards are a result of the inflationary increase and not a request for a program increase.

Of the \$1.5 million increase in the projected FY 1996 IHP mandatory appropriations, \$737,000 will be used to provide 15 new loan repayment awards.

DIRECT OPERATIONS

In Direct Operations, the request identifies a reduction of 117 FTEs. A reduction of 26 FTEs is due to streamlining, 13 due to contracting and compacting, and 79 due to an unspecified "FTE Reduction" that is offset by an increase in contract care delivery.

Question. Where are the reductions due to streamlining being taken? What functions are not being performed, or are being performed more efficiently?

Answer. The numbers provided in FY 1996 budget for streamlining and contracting were estimates and do not relate to specific functions.

Question. Where will the FTE reduction of 79 be taken? What functions will not be performed?

Answer. The FTE reductions were budget estimates and do not relate to specific functions. There are 134 employees in the Headquarters and Area offices who agreed to buyouts in FY 1995 and an 74 employees who have been approved for deferred buyouts in FY 1996. These employees have been performing a wide array of personnel management, administrative and financial management, health program administration and secretarial support functions. These employees will not be replaced except in the most critical functions.

Question. How does the FTE reduction of 79 relate to the reduction of 13 taken for compacting and contracting?

Answer. The greater number of employees at Headquarters and Area offices will be reduced as a result of streamlining or attrition compared to compacting and contracting. Therefore, the Agency estimated a lower total reduction from these sources.

SANITATION PROGRAM

7,200 previously served homes will receive upgrades in FY 1996 to meet newly promulgated Federal water and solid waste restrictions. Only 1,500 homes currently without service will receive service.

Question. What is the total estimated cost to the IHS of compliance with the Safe Drinking Water Act, the Clean Water Act and the Resource Conservation and Recovery Act?

Answer. The IHS does not have data on the affect these laws have had on the cost of providing sanitation facilities for Indian homes and communities. Most of the regulatory provisions resulting from the Safe Drinking Water Act and Clean Water Act do not apply to half of the AI/AN homes because they are not on community water and sewer systems (individual private systems are not regulated). Nevertheless we do know that the when IHS constructs community water and sewer systems, increased regulations resulting from these laws creates more permits and approvals that often result in time consuming and costly construction delays. One example is construction of needed water supply or waste disposal systems in or near wetlands. Also, some existing Indian community water and sewer systems do not comply with many recent regulations, such as the surface water treatment rules; IHS has included these deficiencies in its sanitation deficiency system (SDS) data base. Projects to address these and all other documented deficiencies will be funded in priority order as funds are appropriated. Unless there is a significant public health concern, generally deficiencies resulting from more stringent regulations receive low priority.

Recent more stringent regulations promulgated under the Resource Conservation and Recovery Act for solid waste landfills has had a significant impact on the operation of landfills located on Indian reservations. Many tribes have elected to close their landfills and have had solid waste hauled to regional landfills off reservation. IHS has provided some project funding to tribes for this purpose. As a result of the Indian Lands Open Dump Cleanup Act of 1994 (P.L. 103-399), the IHS is in the process of developing cost estimates to cleanup and close all tribally owned solid waste dumps.

Perhaps the greatest impact of these three laws has been on the cost of operation and maintenance of water, sewer, and solid waste systems owned and operated by Indian tribes. (IHS does not own or operate these systems.) Increased monitoring and reporting requirements as a result of more stringent regulations has been costly and burdensome and in many cases are not necessary for the small remote systems that serve Indian homes.

Question. Does the IHS feel that the health benefits that will accrue from upgrading existing homes outweigh the health benefits that would accrue from accelerating installation of sanitation facilities in homes that currently have no service?

Answer. The IHS uses a project priority system that takes into account health impact whether the existing Indian home needs upgraded sanitation facilities or sanitation facilities for the first time. Generally homes without any sanitation facilities receive highest priority within an IHS Area. However, established water systems can have a significant detrimental public health impact on a large number of people if the treatment or distribution system is seriously deficient. Therefore health benefits do accrue by providing and/or upgrading sanitation facilities to both types of homes. In general, IHS reports many more homes receiving upgraded sanitation facilities because when community systems are improved, all homes connected are counted and reported. However, the average cost per home is much less than for sanitation facilities to serve existing homes without any sanitation facilities.

Question. What is the average cost of these upgrades? The average cost of first service?

Answer. The average cost to provide upgraded water and/or sewer facilities to existing homes is approximately \$2,600 per home. The average cost to provide new water, sewer, and solid waste facilities to existing Indian homes and communities is approximately \$18,000 per home.

Question. Given the limitations on funding for IHS Sanitation projects, are there portions of the Safe Drinking Water Act, the Clean Water Act and the Resource Conservation and Recovery Act that you would like to see amended to include a more rigorous cost-benefit analysis?

Answer. It is not necessary to require a cost-benefit analysis to select which projects will be funded. IHS is required to use a project priority system, which is essentially a cost-effectiveness analysis. A cost-benefit analysis for each potential project would be very costly, time consuming and provide no additional benefit to the Program.

The request states that although FY 1994 funds for sanitation projects have been obligated, actual planning, design, and construction of facilities has been delayed due to lack of staff support?

Question. How much of a backlog exists in the Sanitation program? How much additional staff would be required to efficiently spend the level of funds provided in FY 1995?

Answer. Typical IHS sanitation facilities construction projects take approximately 3 years to complete after the funds are obligated. Because of increased construction appropriations since FY 1991 without a commensurate increase in staff, many IHS projects fell behind schedule. The Sanitation Facilities Construction (SFC) Program is striving to improve efficiency and effectiveness. This year, for the first time, IHS can now use personal services contracts. These types of contracts are expected to provide the relief necessary to improve the delivery of funded projects. All funds appropriated for sanitation facilities construction before FY 1995 are obligated for specific projects. Fiscal year 1995 funds will be obligated by the end of the fiscal year. Currently the annual rate of expenditure of these funds for the construction of tribal sanitation facilities is equal to the annual level of appropriations.

Question. If no additional staff is provided in FY 1996, how much should the Sanitation program be reduced in order to bring it line with the amount of staff support provided?

Answer. The current sanitation facilities funding level of \$85 million annually can be expended efficiently and effectively in future years with the current amount of staff support with the increased use of new authorized personal services contract.

The request states that the proportion of indian homes with essential sanitation facilities has increased from 20 to 85 percent since the inception of the Sanitation program in 1960.

Question. If funding remains roughly constant, when will the percentage of indian homes served roughly equal the percentage of non-indian homes served? How much money will be required to reach this point? Is this projection consistent with the IHS 10 year plan?

Answer. IHS does not have data showing the relative percentages of Indians and non-Indians without adequate sanitation facilities. However, a possible indicator of the relative level of services, based on 1990 census data, is that 0.81 percent of the U.S. population obtains water for home use from springs, creeks, rivers, or cisterns. For Native Americans, the amount is 3 percent.

As of the end of FY 1994, IHS identified sanitation deficiencies amounting to \$606 million for 1,515 economically feasible and justifiable projects intended to provide sanitation facilities to existing homes. Completion of these projects would provide services to between 90% and 95% of currently existing Indian homes. The IHS estimates that with the \$44.3 million appropriated for this purpose in FY 1995, 150 of those projects will be funded. The FY 1996 President's budget request of \$46 million for sanitation facilities to serve existing homes will fund approximately 155 additional projects.

At the current annual funding rate of \$45 million to address the backlog of existing homes, it will take more than 30 years to bring Indian homes and communities near the level of service that non-Indians currently enjoy (because of inflation, deterioration of existing facilities, and new regulations).

Question. What is the minimum level of funding required in FY 1996 to maintain the Sanitation project backlog at the current level?

Answer. At current annual funding levels, the total cost to address the backlog of sanitation deficiencies has remained nearly constant because the cost of the deficiencies is growing at the same rate as the amount of funds appropriated. Each year the cost to address the sanitation deficiencies identified are reevaluated and new deficiencies are added as they develop. It is anticipated, therefore, that the funds identified in the President's FY 1996 budget to address the backlog of sanitation deficiencies for existing homes will not significantly decrease the total need identified at the end of FY 1996.

The request states that a 1974 report found that Indian families living in homes with satisfactory environmental conditions required 25% of the IHS services required by families living with unsatisfactory environmental conditions.

Question. Using this finding as a guideline, can the IHS estimate the monetary savings to the IHS health care system that will accrue from the Sanitation program?

Answer. In the past, IHS has attempted to determine the monetary savings to the health care system resulting from the provision of adequate sanitation facilities. A statistically valid cost-benefit analysis proved to be too time consuming and costly to continue because of the number of confounding variables. However, the IHS considers the provision of sanitation facilities to be an extension of its primary health care delivery efforts. In 1959, when the Indian Sanitation Facilities Act was passed, Congress and the IHS recognized that the availability of essential sanitation facilities was a major factor in breaking the chain of waterborne communicable disease episodes. But by no means is their provision limited to disease intervention. Safe drinking water supplies and adequate waste disposal facilities are essential preconditions for most health promotion and disease prevention efforts. Consistently and optimally fluoridated drinking water can virtually eliminate tooth decay among children. Home health care nursing services are much more effective when safe water and adequate wastewater disposal systems are in place in the home.

The provision of sanitation facilities has other far-reaching, positive spin-offs. The availability of such facilities is of fundamental importance to social and economic development. In turn, such development leads to an improved quality of life and an improved sense of well-being and self-sufficiency.

The IHS estimates that it will receive \$22 million from HUD to construct sanitation facilities for 2,200 HUD-financed homes.

Question. Does IHS feel \$10,000 per home is an appropriate cost for such facilities? What is the average total construction cost of these homes?

Answer. In the last three years, the average cost to provide sanitation facilities to a new HUD home has been \$10,600. This is considered an appropriate cost. The IHS does not have information on the total construction costs of HUD homes.

IHS expects to fund sanitation systems for 2,500 new "Tribal/Other" homes in FY 1996.

Question. What types of homes are included in this category? How are they generally financed? Why did the number of such homes estimated to be constructed rise by nearly 500 from FY 1994 to FY 1995?

Answer. This category includes new or renovated homes financed by tribes through general revenues, grants and loans, by individuals through private financing, or by a means other than the HUD housing program or BIA Home Improvement Program. These estimates are based on recent historic numbers. While only 2,042 tribal/other homes were served in FY 1994, 2,701 had been served in 1993. In preparing the FY 1995 estimate, an average over the last four years was used.

The request indicates that a joint IHS/tribal working group will be reviewing and making recommendations about the existing allocation methodology for sanitation funds for new and renovated homes.

Question. What is the status of this review? What recommendations have been made?

Answer. The work group effort is still ongoing. They have conducted two meetings and are in the process of mailing a report to every tribe seeking tribal comments and recommendations. At least one national meeting with tribes also is planned. Once the tribes have been consulted, the work group will make and provide recommendations to IHS management for approval and implementation.

MAINTENANCE AND IMPROVEMENT

\$14,092,000 was allocated in FY 1995 to address the Backlog of Essential Maintenance and Repair.

Question. How much is requested in FY 1996 to reduce the backlog?

Answer. In FY 1996, \$25,000,000 of the Maintenance and Improvement (M&I) activity will be allocated to address the Backlog of Essential Maintenance and Repair (BEMAR).

Question. How large is the current backlog? At the requested funding level, will we achieve a net reduction in the total backlog?

Answer. The current identified Backlog of Essential Maintenance and Repair (BEMAR) is \$198,601,000.

The BEMAR grew at a net rate of approximately \$12,000,000 per year from FY 1987 to FY 1992. In FY 1991 IHS began funding M&I for tribally-owned facilities that generated primary care provider visits. In FY 1993, provision of M&I support was extended to all tribally-owned facilities in which P.L. 93-638 contracted activities are carried out. Largely as a result of Deep Look inspections of tribally-owned facilities, the BEMAR increased by approximately \$87,000,000 in FY 1993. A significant reduction in BEMAR was achieved in FY 1994 with the removal from the FEDS data system, deficiencies in buildings that are being replaced and will be demolished after the new facilities come on line.

It is difficult to predict a net reduction in BEMAR in a specific year. Varying numbers of in-depth Deep Look inspections are performed on facilities each year. Concurrently, each year a large number of maintenance and improvement projects are undertaken. Each fiscal year, the BEMAR is updated by removing deficiencies that were included in awarded contracts. Deficiencies identified in inspections throughout the year are added to the BEMAR.

Changing funding levels and inclusion of additional facilities result in normal fluctuations in the BEMAR.

Question. Please provide for the record a ten year history that shows the size of the maintenance backlog from year to year, along with any footnotes necessary to explain major changes from year to year?

Answer. The following chart depicts a 10 year list showing the size of the Backlog of Essential Maintenance and Repair (BEMAR) from year to year, along with foot notes necessary to explain major changes from year to year.

<u>Beginning Of Fiscal Year</u>	<u>Backlog Of Essential Maintenance and Repair</u>
1995	\$198,601,000 1/
1994	\$287,089,000 2/
1993	\$217,438,000 3/
1992	Incomplete Information
1991	\$216,045,000 4/
1990	Incomplete Information
1989	\$128,958,000
1988	\$131,144,000
1987	\$118,452,000
1986	\$105,493,000

1/Includes increase of approximately \$47,000,000 associated with inspection of additional tribal facilities, including alcohol and substance abuse program facilities, a decrease of \$113,450,000 in deficiencies deleted because of construction of the new Anchorage Native Medical Center and the new Kotzebue Hospital, and a decrease of approximately \$22,000,000 for project awarded during the year.

2/Includes an increase of approximately \$87,000,000 associated with inspection of additional tribal facilities during FY 1991 and FY 1992 and a decrease of approximately \$23,000,000 for projects awarded during the year.

3/Includes increases attributed to the inclusion of tribal facilities as well as increases not reported in FY 1990 and 1992.

4/Includes erroneous entries which were later deleted during FY 1991. The Facilities and Equipment deficiencies (FEDS) data base includes facilities not eligible for Maintenance and Improvement (M&I) funds. The BEMAR is derived from the FEDS and this data was inadvertently included in the BEMAR.

Maintenance funds are currently distributed to the area offices to be allocated according to regional priority lists. Prior to FY 94, funds were distributed according to a national priority list.

Question. Has there been a significant geographical shift in how such funds are allocated since this change was made? If so, what areas receive more or less money? Are projects that are being funded roughly comparable in terms of urgency from area to area?

Answer. There has been no significant geographical shift in fund allocation since the change was made to allocate funds according to regional priority lists. Project funding is improved in that the IHS Areas can plan projects and respond to urgent Area problems in a more efficient manner by knowing how much funding is available to the individual Area. Prior to the change, there was no guarantee that an Area's highest priority project would rank high enough on the national priority list to be funded.

Question. How much will it cost to address environmental deficiencies currently in the IHS database? How much of this amount is for activities required by law?

Answer. The IHS Facilities and Equipment Deficiencies (FEDS) data base currently shows \$15,974,000 for environmental deficiencies. Correction of these deficiencies is required by law.

Question. Are any environmental remediation activities conducted with funds other than the \$3 million for environmental remediation included within the Maintenance and Improvement budget?

Answer. In addition to the \$3 million environmental remediation included within the Maintenance and Improvement (M&I) budget, the IHS allows expenditure of routine maintenance and project funds to perform remediation of environmental problems.

Question. Does the IHS expect its list of environmental deficiencies to grow as it continues its annual audits?

Answer. The list of environmental deficiencies is expected to increase substantially as the IHS continues its annual audits. Limited data at this time precludes any estimates of the increase. The IHS is in the process of obtaining a nation wide environmental audit contract through the U.S. Public Health Service Office of Engineering Services (OES). At such time as OES awards the contract and inspection reports start coming in, a projection of the overall impact of the audits will be made.

FACILITIES CONSTRUCTION

Previous appropriations bills have authorized the use of prior year carryovers for use in certain facilities projects. Two such projects were approved in FY 1994.

Question. How many projects does the IHS foresee being approved in FY 1995? How much prior year funding is typically used for these projects?

Answer. The IHS anticipates approval of approximately three projects using prior year carryover Services appropriation funds to add health facilities space. Dialogues regarding these potential projects are occurring in the Aberdeen and Albuquerque Areas. Carryover prior year Services funding proposals seems to vary from \$150,000 to \$500,000 for each project depending on the specific location. IHS does not anticipate using carryover Facilities appropriation funds except for the completion of the Fort Belknap facility as described in the reprogramming letter dated May 31, 1995.

The facility construction priority list is included in the budget request. However, the request indicates that additional projects are expected to be added to the list as Program Justification Documents are completed for 22 proposed facilities.

Question. Has the construction priority list changed since the request was submitted? Are further changes expected in the next several months? If so, please provide details.

Answer. Since the request was submitted, 3 additional projects have been approved and added to the priority lists. Within the next few months, we anticipate additional facilities will receive approval and be added to the priority lists.

The current Health Facilities and Staff Quarters Priority Lists are attached. These lists reflect recent approval of:

<u>Facility</u>	<u>Approved</u>
Pawnee, Oklahoma Health Center	February 1995
St. Paul, Alaska Health Center	May 1995
Ft. Belknap, Montana Quarters	May 1995

PRESENT FACILITIES PRIORITY RANKINGS May 1995

Health Facilities Priority Lists

Inpatient

Ft. Belknap, MT*
Ft. Defiance, AZ*
Winnebago, NE*
Phoenix, AZ*
Talihina, OK

Outpatient

Parker, AZ*
Ft. Yuma, AZ*
Hopi (Second Mesa) AZ*
Pinon, AZ*
White Earth, MN*
Red Mesa, AZ (Montezuma Creek, UT)*
Pawnee, OK
St. Paul, AK

Staff Quarters Priority List

Bethel, AK (79 units)
 Zuni, NM (19 units)
 Wagner, SD (10 units)
 Ft. Belknap, MT (29 units)

***Partially Funded**

Question. For each of the facilities currently on the priority list for which all construction funds have not been appropriated, what is the total estimated cost of construction?

Answer. For all facilities on the IHS 5-Year Health Facilities Planned Construction Budget, there is currently an unfunded balance of \$683,454,000. A copy of the plan, dated May 23, 1995, is attached.

According to the request, the unfunded balance of the 5-year IHS Health Facilities Planned Construction Budget is \$606,843,000.

Question. Could you provide for the record a summary of the projects included in this budget plan?

Answer. The IHS 5-Year Health Facilities Planned Construction Budget, dated May 23, 1995, is attached.

Question. What would you estimate the annual operating costs of these facilities to be?

Answer. Annual operation cost for a new health care facility typically is estimated in the range of 40-65 percent of the construction cost. This means that if all facilities on the current 5-year IHS Health Facilities Planned Construction Budget (copy attached) are completed at an estimated construction cost of \$885 million; the total estimated annual operating cost for these facilities would range from \$350 million to \$575 million. Since most of these facilities are replacement facilities, some operating funds are already available, but an estimated additional \$230 million to \$450 million in operating funds would be necessary.

Actual operating cost for a specific facility will depend on the health care programs provided and the isolation of the location. Prior to opening a new facility, the Resource Requirements Methodology Needs Assessment allocation is used to determine current staffing and operating needs.

The request indicates that the Strategic Plan for Facilities is in the final development stage. The request also indicates the plan will enable IHS and tribes to adequately maintain, renovate and replace all owned buildings used for health care delivery.

Question. What is the status of the Plan?

Answer. The IHS has completed initial development of the Strategic Plan for Facilities (SPF). The plan would result in significantly improved health care facilities.

Question. Does the plan rely upon a certain minimum level of funding for the Facilities program? If so, what is that level?

Answer. The Strategic Plan for Facilities (SPF) assumes a level of annual funding, based on the replacement value of IHS' facilities, adjusted for inflation. Annual funding would include life cycle costs (annual set-aside for future facility renovation, and replacement); facility operating costs (Maintenance & Improvement, and Facility Support); and funding for expansion of overcrowded facilities.

05/23/95

Health Facilities FY 1997 Planned Construction Budget a/
(\$000)

1123

FACILITY	PRIOR TO FY 95	FY 95 APPROP	FY 95 W/ REPROG	FY 95 PRESID. BUDGET	FY 97 REQEST	FY 98 EST.	FY 99 EST.	FY 00 EST.	TOTAL COST	REMARKS	COULD USE IN FY 96
Planning Studies		\$0	\$0	\$0	\$200	\$700	\$200	\$700	\$800		\$200
Inpatient Facilities c/ d/											
@Anchorage, AK Hosp 1/	\$150,196	\$16,969	\$0	\$0	\$0	\$0	\$0	\$0	\$167,165	Construction	\$0
Fi Belknap, MT HCs 2/	\$3,005	\$3,992	\$0	\$2,216	\$10,708	\$0	\$0	\$0	\$19,921	Construction	\$12,924
Fi Belknap, AZ Hosp 3/	\$4,832	\$0	\$0	\$0	\$53,677	\$43,705	\$0	\$0	\$101,214	Design	\$53,677
Winnipeg, NE Hosp 4/	\$330	\$1,397	\$0	\$0	\$35,249	\$0	\$0	\$0	\$36,996	Design	\$544
Phoenix, AZ Med Ctr 5/	\$225	\$0	\$0	\$0	\$8,000	\$8,000	\$128,310	\$66,310	\$210,845	PID development	\$8,000
Tallahas, OK Hosp 6/	\$0	\$0	\$0	\$0	\$3,961	\$35,651	\$0	\$0	\$39,612	Site Selection	\$3,961
Outpatient Facilities c/ d/											
Parker, AZ HCs 7/	\$743	\$374	\$0	\$0	\$15,728	\$0	\$0	\$0	\$16,845	Design	\$0
Fi Tucson, AZ HCs 8/	\$667	\$0	\$0	\$0	\$0	\$5,524	\$0	\$0	\$6,191	On Hold	\$0
Hi Second Mesa, AZ HC 9/	\$1,350	\$1,098	\$0	\$0	\$30,000	\$11,188	\$0	\$0	\$45,636	Design	\$12,000
Phon, AZ HC 10/	\$890	\$0	\$0	\$0	\$24,270	\$0	\$0	\$0	\$25,160	Design	\$785
White Earth, MN HC 11/	\$1,470	\$2,994	\$0	\$8,998	\$0	\$0	\$0	\$0	\$13,462	Construction	\$8,998
Red Mesa, AZ HC											
(Montezuma Creek, UT) 12/	\$755	\$0	\$0	\$0	\$966	\$13,034	\$11,643	\$0	\$26,398	PID development	\$966
Pawnee, OK HC 13/	\$0	\$0	\$0	\$0	\$1,234	\$11,281	\$0	\$0	\$12,535	Site Selection	\$1,234
St. Paul, AK HC 14/	\$0	\$0	\$0	\$0	\$1,255	\$14,780	\$0	\$0	\$16,035	Site Selection	\$1,255
Quarters c/											
Bedford, AK Pers Qtrs (79) 15/	\$0	\$0	\$0	\$0	\$2,760	\$28,885	\$27,625	\$0	\$56,270	Design-Phase I	\$2,760
Zuni, NM Pers Qtrs (19) 16/	\$0	\$0	\$0	\$0	\$420	\$3,161	\$0	\$0	\$3,581	Design-Phase I	\$420
Wagner, SD Pers Qtrs (10) 17/	\$0	\$0	\$0	\$0	\$1,706	\$0	\$0	\$0	\$1,706	Design	\$1,706
Fi Belknap, MT Pers Qtrs (29) 18/	\$0	\$0	\$0	\$0	\$5,687	\$0	\$0	\$0	\$5,687	Design	\$3,420
Regional Treatment Centers											
PHQ-Sacillie/Fallon, NV 19/	\$515	\$0	\$0	\$0	\$1,567	\$0	\$0	\$0	\$2,082	Design	\$1,567
S. California YRTC 20/	\$0	\$0	\$0	\$0	\$462	\$5,926	\$0	\$0	\$6,388	PID development	\$462
N. California YRTC 21/	\$0	\$0	\$0	\$0	\$486	\$6,261	\$0	\$0	\$6,747	PID development	\$486
Joint Venture Demonstration Projects (Section 818)											
Health Centers 22/	\$2,552	\$0	\$0	\$0	\$2,000	\$2,000	\$2,000	\$2,000	\$10,552	Equip 2-3 per year	\$2,000
Small Ambulatory Care Facility											
Grants (Sect. 306)	\$0	\$0	\$0	\$0	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000	3-6 projects/year	\$3,000
Non IHS Funds Renovation											
Projects (Sect. 305)	\$0	\$0	\$0	\$0	\$2,000	\$2,000	\$2,000	\$2,000	\$8,000	Equip 3-7 per year	\$2,000
Indian Health Care Delivery Demo											
Projects (Sect. 307)	\$0	\$0	\$0	\$0	\$1,000	\$1,000	\$10,000	\$10,000	\$22,000	1-2 projects	\$1,000
Modular Dental Units 23/	\$1,000	\$998	\$0	\$0	\$1,000	\$1,000	\$1,000	\$1,000	\$5,998	New Repl 4 units/yr	\$1,000
Facilities LNF Space 24/											
	\$5,977	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,977	Raise level of svcs	\$0
TOTAL	\$174,327	\$27,822	\$0	\$11,214	\$207,356	\$189,072	\$191,302	\$84,310	\$885,803		\$174,385
Total Unfunded FY 1996-2000											
@ Fully funded	\$11,214				\$207,356	\$189,072	\$191,302	\$84,310	\$683,454		

* Preliminary estimate pending completion of final cost estimate by Office of Engineering Services

The Strategic Plan for Facilities, if fully implemented, would represent a significant change to the current facilities priority lists, which replaces health facilities only when their need becomes greater than the needs of all other IHS facilities. The estimated funding required is \$330,000,000 compared to \$104,000,000 appropriated for Maintenance and Improvement, construction of replacement facilities, and Facility Support in FY 1995.

Question. Is the Department's FY 1996 request consistent with the needs identified in the Plan?

Answer. Due to overall budget constraints, no funds were requested in FY 1996 to implement the Strategic Plan for Facilities. However, some portions of the plan are being addressed at current funding levels using our current funding methodologies.

FORT BELKNAP

IHS has requested \$2,216,000 to construct the Ft. Belknap Health Center at Hays, Montana. The request also indicates that a reprogramming request will be made in FY 1995 to continue construction of the Ft. Belknap Agency facility at Harlem, Montana.

Question. Why is a reprogramming necessary to complete construction of the Harlem facility? What is the status of the reprogramming request, and from what account will the IHS propose to transfer funds?

Answer. The estimated cost for the Ft. Belknap projects is \$18,885,000. A total of \$6,997,000 has already been appropriated to design and start construction. The reprogramming was submitted to the Appropriations Committees on May 31st, approved by the House on June 29th, and by the Senate on July 7th. Funds will be reprogrammed from completed health care facility and other facilities accounts to complete construction of the health center at Ft. Belknap Agency (Harlem).

Question. Why was the request for Hays lowered from \$11,888,000 to \$2,216,000 during the formulation of the budget request? What will be the impact of this reduction?

Answer. The estimated funding needed to complete both Ft. Belknap health care facilities is \$12,924,000. The FY 1996 budget request of \$2,217,000 assumed approval of a FY 1995 reprogramming of \$9,672,000 into the project to ensure the Agency facility could be completed as planned without delays.

WINNEBAGO

\$1.4 million was provided in the FY 1995 bill for design of the Winnebago hospital, contingent upon the Winnebago and Omaha Tribes reaching agreement on site selection. I understand the tribes recently resolved this matter.

Question. Is the IHS confident in the strength of the agreement between the two tribes?

Answer. In January 1995, the Omaha and Winnebago Tribes passed a joint resolution supporting the replacement hospital project. In response to House appropriations subcommittee staff concerns that the joint resolution was too general, the tribal chairmen issued a letter on February 6 which specifically mentions support for the site selection process. The IHS is not aware of either tribe intending to withdraw its support of the site selection process.

Question. When will design of the facility be completed? In what year will construction funds be required?

Answer. The Phase II site survey report was approved on February 17. This report verifies that the site selected for the replacement hospital is adequate.

The next step in the project is to decide if the design process will be a direct Federal contract or a Public Law (P.L.) 93-638 tribal contract. The Winnebago Tribe has indicated that it prefers design be accomplished by the direct Federal process. However, the Omaha Tribe has expressed an interest in design under P.L. 93-638 and has passed a resolution affirming that intention. This will require a concurring resolution from the Winnebago Tribe since the proposed facility will serve both tribes.

Design of the replacement hospital cannot proceed until the design process is decided. Selection of an architectural/engineering firm can be accomplished in 3 months. Actual design of the replacement hospital and renovations to the existing hospital to accommodate an expanded drug dependency unit is scheduled to be accomplished within 24 months after contract award.

Question. Does IHS have the capability to spend any funds in FY 1996 beyond those already provided?

Answer. According to the January 1995 cost estimate update for the Winnebago project, \$1,941,000 are required for the design effort which includes the replacement hospital and renovations to the existing hospital to accommodate an expanded drug dependency unit. The IHS has \$1,397,000 available; an additional \$544,000 will be needed to complete the design.

HOPI SECOND MESA & PINON

The IHS sought funding for design of the Hopi Second Mesa and Pinon facilities during the budget formulation process.

Question. Are there reasons beyond fiscal limitations why funding for these projects was not included in the final request to Congress?

Answer. There were no reasons beyond the fiscal limitations of funding that these projects were not included in the final request to Congress.

SHIPROCK

\$9.3 million was appropriated in FY 1995 to hire 170 staff for the Northern Navajo Medical Center at Shiprock, New Mexico.

Question. How much of this money has actually been spent to hire staff? How many additional staff have been hired?

Answer. All of the funds have been used to support staff costs. Some of the funds were used to support existing staff for which no funding from budget authority was available.

Question. For what other purposes was this money used?

Answer. The money was used to support the Shiprock Hospital on-board staff.

Question. How many additional staff must be hired for the facility to reach 85% level of need? How many additional staff are requested in the FY 1996 budget?

Answer. The Shiprock Hospital requires 187 additional FTE to reach the 85% level of need. One hundred fifteen FTEs are requested in the FY 1996 budget and the remaining 72 FTEs will be requested in the FY 1997 budget.

KLAMATH TRIBAL HEALTH AND FAMILY SERVICES

The Klamath Tribes are seeking funding in FY 1996 to fund the Adolescent Farm Recovery Project. This funding would allow the Tribes to administer a unique recovery program for tribal youth.

Question. Is the IHS familiar with this proposal? Has this proposal ever been considered for inclusion on the IHS construction priority list?

Answer. We are aware the Klamath Tribe is developing a proposal with the United States Department of Agriculture to provide services which have yet to be defined or fully evaluated. At this time full details of the proposal have not been made available for the IHS to provide a definitive response or for the project to receive consideration for the IHS Health Facilities Construction Priority List.

Question. Is there a particular program or authority under which this type of facility would best fit?

Answer. Until full details of the Klamath Tribe's proposal are known, the IHS cannot make a determination which particular program or authority under which this type of facility would best fit.

The Klamath Tribes have requested statutory changes that would allow them to provide direct services to tribal members that reside in 12 counties outside Klamath County, Oregon.

Question. What is the estimated annual cost to the IHS of providing such service? Does the IHS have any comments as to the merits of this proposal?

Answer. The Tribe is requesting that its contract health service delivery area (CHSDA) be expanded to include 12 unidentified counties. The process for evaluating requests to expand a tribe's CHSDA is contained in the Code of Federal Regulations (CFR), Title 42, Section 36.22(b) (1986), which specifies that the Secretary, Department of Health and Human Services, may redesignate a CHSDA and describes the criteria on which a decision should be based.

The IHS encourages the Tribe to submit the necessary information for expanding their CHSDA to the Director, Portland Area. The staff of the Portland Area office is available to provide assistance. Since, the Tribe has not submitted the necessary information, the IHS is unable to adequately evaluate this request.

Because the request includes such a large amount of territory (12 counties), the potential number of additional eligible individuals could be large. Members of other Federally recognized tribes residing in the 12 counties could become eligible for CHS through the Klamath Tribes if the Klamath Tribes determined that those individuals had close social and economic ties with the Klamath Tribe.

AMERICAN INDIAN/ALASKA NATIVE FAMILY PRACTICE RESIDENCY PROGRAM

The Seattle Indian Health Board is seeking funding from the Urban Health program to fund a Family Practice Residency Program. The Health Board is the only Indian organization to sponsor an accredited medical residency program for American Indian physicians.

Question. Is the IHS familiar with this proposal? Does the IHS have any comments as to the merits of this proposal?

Answer. The IHS is familiar with this proposal. The IHS supports the proposal in concept. However, no funds are available with which to provide the necessary financial support.

The program's affiliation with the University of Washington Family Practice Residency Program, one of the best such programs in the nation, will enable the Seattle Indian Health Board to attract the best Indian physicians. The attraction will extend to both those already interested in becoming family physicians and those medical students who are undecided as to the specialty they wish to enter, thus influencing some Indian physicians who might not otherwise have done so to become family physicians, the specialty most needed by Indian health programs. The program should yield very high quality physicians interested in providing care to Indian people. In turn, these physicians should serve as outstanding role models for Indian young people and possibly influence them to enter one of the health professions.

WAGNER SERVICE UNIT

The Yankton Sioux Tribe has sued the IHS in an attempt to maintain inpatient treatment capabilities at the Wagner Health Facility.

Question. What is the status of the lawsuit?

Answer. On May 5, 1994, the United States District Court for the District of South Dakota filed its Memorandum and Order in this case. The district court permanently enjoined the IHS from discontinuing 24-hour emergency services at its facility in Wagner, South Dakota. However, the injunction could be lifted once an impact report required by 25 U.S.C.1631(b) has been submitted to Congress and Congress either acts upon the report or one year passes from the date the report is submitted to Congress, whichever occurs first. The report must be submitted to Congress for any proposed closure of an IHS hospital, outpatient facility, or portion of such hospital or facility. The impact report must be submitted to Congress at least one year prior to the proposed closing date. The report must consider the accessibility of alternative health care; the cost effectiveness of such closure; the quality of health care to be provided to the population previously served by the facility; the availability of contract health care funds to maintain existing levels of service; and the views of the tribes served concerning such closure. The impact study is underway and is nearing completion.

The IHS did not appeal this case to the Eighth Circuit Court of Appeals.

Question. Does the IHS still maintain that it is less expensive to contract for certain health services rather than maintain inpatient facilities at the Wagner facility? How much would be required to refurbish the old facility?

Answer. The IHS has determined that it is more cost effective to contract inpatient care than it is to renovate the existing facility or to construct a new inpatient facility. The IHS does not construct inpatient facilities where there is a projected average census of less than 15 patients per day. The average daily census for Wagner was 5.6 prior to the closure of the inpatient unit. Indications are that the care provided by the former inpatient facility was of the low acuity type. Changes in medical practice patterns and reimbursement normally preclude admissions to hospitals for this kind of care. Only in situations where there is no alternate access to care within 60 miles and a sufficient workload will the IHS entertain the construction of facilities for low acuity inpatient care.

The IHS has testified in court that it would require \$750,000 to \$1,000,000 to renovate the former inpatient area referred to as

the "no-work area." This does not include the necessary support areas such as dietary, medical supply, clinical engineering, additional parking, etc. Current standards preclude adding such support services since the land base, 4.5 acres, is too small to accommodate this requirement. Moreover, such support capacity would require new construction.

Question. What is the estimated cost differential between the two options?

Answer. A minimum of \$8.8 million would be required to construct an addition to the present facility for the purpose of providing inpatient care. The cost of renovating the "no work" area now used as office space, excluding support space, is estimated to be \$750,000 to \$1 million. No estimates have been calculated for the support space. The operational cost is estimated at \$6.6 million per year. Whereas, the cost of contracting inpatient and emergency room care is estimated to be \$2.2 million per year. While the IHS has not completed the impact study which will include final cost estimates, sufficient information is available to conclude that it is far more cost effective to contract the inpatient care required by the members of the Yankton Sioux tribe.

ENVIRONMENTAL HEALTH AND ENGINEERING SUPPORT

The Conference Report accompanying the FY 1995 Interior appropriations bill included a provision encouraging the IHS, and particularly the Office of Environmental Health and Engineering, to work with the self-governance tribes to negotiate activities that could be incorporated into self-governance compacts without affecting adversely non-compacting tribes.

Question. What progress has the IHS made in such negotiations?

Answer. In FY 1995, only 4.9% of the Facilities Appropriation of \$253,282,000 was identified to support the staff necessary to carry out inherent governmental functions. The remainder of the funds support program activities and projects which benefit Indian people directly, the vast majority of which are available for compacting. Eighty-one percent of the appropriation is available for compacts/contracts which includes environmental health and facilities program activities, the construction of sanitation facilities, and Maintenance and Improvement routine maintenance and project work; 12.7% is tied to the construction of health care facilities (for both the cost of construction and personnel support) which is currently not compactable because it is Federal construction; and 1.5% supports emergency projects and mandated environmental assessments/remediation projects. Even though sanitation facilities construction funds are totally compactable, the IHS has established an IHS-Tribal Workgroup to determine if improved mechanisms can be developed to fund such projects.

EQUIPMENT

In FY 1995, Congress created a separate activity in the Facilities appropriation for medical equipment. The FY 1996 request indicates that IHS is working with tribes to develop methodologies for distribution of these funds, and that such methodologies would be in place by March, 1995.

Question. Have such methodologies been established? If so, please provide a brief summary and indicate any major changes from prior methodologies.

Answer. Prior to FY 1995, IHS determined equipment replacement requirements based on expected equipment life spans as listed in the IHS equipment inventory.

In FY 1995, a separate activity within the Facilities appropriation was created for Federal and tribal facilities. An interim methodology based on the number of active users and types of facilities was used to allocate equipment funds to tribal facilities. Tribal facilities received their individual shares directly. The equipment inventory continued to be used to distribute the IHS share of funds among IHS facilities.

For FY 1996, a methodology for Equipment Funds for Existing IHS and Tribal Facilities will be used which allocates 50% of the funds in proportion to clinical workload and 50% of the funds in proportion to facility size. Individual tribal facilities receive a proportionate share directly; the IHS share is distributed by Area offices.

A separate methodology for Equipment Funds for Tribal Replacement Facilities constructed with non-IHS funds determines a tribe's relative need for equipment by evaluating a facility's isolation, the amount of additional space needed, and whether the new facility is a total replacement of the old facility. Awards are made in the order of relative need until the available funds are exhausted. Individual awards are limited to 17 percent of actual facility construction cost, or \$300,000, or the amount required by the tribe's equipment plan, whichever is less.

CONTRACT TIMING

Last year's House Report included language directing the IHS to consider converting contracts from a fiscal year basis to a calendar year basis.

Question. Does the IHS still intend to report to the Appropriations Committees regarding its consultations with tribes on this issue? If not, why not? If so, when will this report be available?

Answer. Yes. The IHS has identified the funding requirements for tribes that desire to convert the period of their self-determination contracts from a fiscal year to a calendar year basis. These requirements are included in a report that will be forwarded to Congress in June 1995.

SUICIDE RATES

The request indicates that a report on suicide rates requested in the FY 1995 House Appropriations report was to be provided prior to hearings on the FY 1996 budget.

Question. Has this report been provided to the Committee?

Answer. The report was prepared, submitted to the Department, and returned to IHS with minor edits on June 8th. We anticipate that the report will be forwarded to the Committee in the near future.

JOINT VENTURE PROGRAM

The Confederated Tribes of the Warm Springs Reservation and the Choctaw Nation recently completed construction of facilities under the Joint Venture Demonstration Program. Under this program, facilities constructed with tribal financing are staffed, equipped and operated by the IHS.

Question. What is your preliminary evaluation of the Joint Venture Program?

Answer. In FY 1991, applications were accepted and reviewed for participation in the Joint Venture Demonstration Program. Three tribes were chosen for further consideration from among those participating initially in the national competition. Of the three, only the Choctaw Nation of Oklahoma and the Confederated Tribes of the Warm Springs Reservation in Oregon developed acceptable planning documents and obtained funding to construct their facilities. The third tribe did not document the ability to fund their proposal and its project was dropped from the IHS Joint Venture funding requests. The Warm Spring facility at Warm Springs, Oregon, was completed in FY 1993 and the Choctaw facility at Poteau, Oklahoma, was completed in January 1995.

The IHS has not yet conducted a complete analysis of these projects to assess their outcome. Preliminary review of the program indicates that this program can impact significantly both Federal and tribal interests. There has been some concern expressed that only those tribes that are administratively and financially capable of completing a complex construction project would benefit from this program. Some tribes, including some that submitted proposals for this program, do not have the financial backing to build a facility. In addition, some tribes may have the capability, but their priority of need is much lower than other tribes that cannot raise the money or manage a complex project. Because major expansion of staffing, equipment, and operating funds are tied directly to construction of new facilities, the more affluent tribes (through construction of a health care delivery facility) would obtain a disproportionate allocation of staff and operating funds if Joint Venture became a major method of financing facilities.

A full analysis of these two projects will require a complete comparison of construction and operating costs as well as a review of patient and employee evaluations to determine whether the joint venture approach is more cost effective than direct federal construction and to determine the potential impact of this type program on provision of health services throughout the IHS.

Question. Have many tribes with facilities on the current priority list expressed interest funding those facilities through the Joint Venture program?

Answer. The Choctaw Nation recently completed a health center at Poteau, Oklahoma, (not on the IHS Health Facilities Construction List) under the Joint Venture Demonstration Program authorized by P.L. 101-512, the 1991 Appropriations Act. This authority and appropriation expired after one year.

The Joint Venture Demonstration Program has been re-authorized under Section 818(e) (1) of the Indian Health Care Improvement Act, P.L. 94-437. The Choctaw Nation has a facility at Talihiina, Oklahoma, on the Health Facilities Construction Priority List and is the only tribe which has expressed an interest in constructing a replacement facility under this new authority.

Question. To what extent do tribes on the priority list have the capability to participate in this type of program?

Answer. The IHS does not have the information available to determine a tribe's capability to administer and finance a complex construction project. That capability would depend greatly on the value of the tribe's assets as well as its ability to sell bonds and obtain loans or grants. However, the Choctaw Nation, which has expressed some interest in constructing the replacement facility at Talihiina, Oklahoma, under the joint venture program, recently completed a health center at Poteau, Oklahoma, under this program.

Question. Were the facilities constructed under this program on the national priority list prior to being built by the tribes?

Do the populations served by the Warm Springs and Choctaw facilities have a level of need commensurate with other Indian populations that may be awaiting IHS construction funding?

Answer. Neither facility constructed under the joint venture demonstration program was on the IHS Health Facilities Construction Priority Lists prior to being built by the tribes.

Question. Do the populations served by the Warm Springs and Choctaw facilities have a level of need commensurate with other Indian populations that may be awaiting IHS construction funding?

Answer. Proposals to replace facilities at Warm Springs, Oregon, and Poteau, Oklahoma, were considered, with nearly 150 other facilities, during Phase I of the latest application of the IHS Health Facilities Construction Priority System. Because the need for additional space was greater at several other facilities, neither the Warm Springs nor the Choctaw proposal was considered beyond Phase I. Although these proposals were dropped after consideration in Phase I, this does not suggest that they had no need for additional space. Nor does it indicate that their need was insignificant. It does indicate that other locations had a greater relative need.

Question. What types of financing did the Choctaw and Warm Springs use to construct their facilities?

Answer. The Choctaw Nation financed the construction of the health facility at Poteau, Oklahoma with funds from three sources; HUD Grant 50%, BIA 25%, Tribal 25%. The facility opened to patients in December of 1994.

The Warm Springs Tribe funded 100% of the construction of their health facility by issuing public tax exempt bonds. The facility opened to patients in September 1993.

Question. Are the annual operating costs of the two facilities typical of similar facilities elsewhere in the IHS system?

Answer. The operating costs of the two facilities are expected to be similar to IHS facilities of similar design. The facility at Warm Springs operates under a Public Law 93-638 contract and has been operating since September 1993. The Choctaw facility opened in December of 1994 and the actual annual operating costs have not yet been established.

Question. Specifically, how was the \$1,500,000 appropriated for the Joint Venture Program used (IHS staffing, technical assistance for applicants, etc.)? Would additional appropriations be required if the program were to be extended?

Answer. In 1991, the Congress appropriated \$1,500,000 to be used by the IHS in a joint venture demonstration in which up to three tribes were to be selected to construct facilities and lease them to the IHS at no cost for 20 years. Funds appropriated by the Congress would be used to equip, staff, operate and maintain the facility. Three tribes were chosen for further consideration from among those participating initially in the national competition. Of the three, only the Choctaw Nation of Oklahoma and the Confederated Tribes of the Warm Springs Reservation in Oregon developed acceptable planning documents and obtained funding to construct their facilities. The third tribe did not document the ability to fund their proposal and its project was dropped from the IHS Joint Venture funding requests. The Warm Spring facility at Warm Springs, Oregon, was completed in September 1993 and the Choctaw facility at Poteau, Oklahoma, was completed in January 1995.

In fiscal year 1993, the Congress appropriated an additional \$1,258,000 in Health Facilities funds for these projects, which a 0.85 percent sequestration reduced to \$1,247,000. The total appropriation for the joint venture demonstration was \$2,747,000. Of this \$1,713,000 was allocated to Warm Springs and \$803,000 was allocated to Poteau for equipment and operational startup. The remaining funds, amounting to \$213,000, will be reprogrammed to meet the needs of other health care facilities construction projects.

Question. Would additional appropriations be required if the program were to be extended?

Answer. If this program were extended, the IHS would need additional Health Facilities funds to purchase equipment and cover initial start up costs for the new facilities. In addition, funds would need to be added to the IHS recurring base to cover the cost of additional staffing and increased operation and maintenance. The amount required would depend on the scope of the project and the magnitude of the enhancement in programs.

YOUTH REGIONAL TREATMENT CENTERS

Question. What is the status of the construction of the Portland Area treatment center?

Answer. Design for the facility was completed in January 1994. Construction is currently underway and is expected to be completed by December 1995.

The IHS received \$3,744,000 in FY 1993 for Phase I construction and \$819,000 in prior fiscal years to plan and design this facility. The IHS received \$2,780,000 in FY 1994 to complete construction and to equip the facility.

FACILITIES SUPPORT

The request notes that adjustments between the Services and Facilities appropriations may be needed as costs attributable to Facilities Support become more clearly defined.

Question. Do you anticipate any adjustments in the levels requested for FY 1996 in each account? If so, where? If not, does the IHS feel its allocation of costs for Facilities Support to be fully in place?

Answer. The IHS will complete its data gathering at the end of FY 1995 to identify adjustments for the Facilities Support sub-activity. These adjustments will be based upon the analyses of the IHS owned facility costs, non-medical building operation supplies and equipment, and biomedical equipment and repair. This information will be available for inclusion in the FY 1997 request.

Question. Have there been any system failures in FY 1995 that have resulted in operational down-time at any IHS facility?

Answer. There have been no system failures resulting in operational down-time at any IHS facility in FY 1995.

ENVIRONMENTAL HEALTH SUPPORT

The request cites a downward trend in injury death rates due in part to programs funded in the IHS Environmental Health program.

Question. What are the funding requirements of the 5-year Indian Injury Prevention Plan? Where do funds for this activity appear in the FY 1996 request? How much is included in the request for these activities?

Answer. The Indian Health Service Injury Prevention 5-Year Plan, "Immunizing Against the Injury Epidemic" identifies a total need of \$10.5 million by FY 1997 to adequately address the current epidemic of unintentional injury among American Indian and Alaska Native people. As in FY 1995, the FY 1996 request for injury prevention includes a total of \$2.5 million (the sum total of previous programmatic increases of \$1.5M in 1993, \$0.5M in 1994 and \$0.5M in 1995) to support this initiative; and this request is in the Environmental Health Support activity. The IHS decided that no additional funds, above the FY 1995 programmatic level, would be requested in FY 1996 due to competing priorities.

OTHER ISSUES UNOBLIGATED BALANCES

Question. Please provide for the record an updated list of unobligated balances in the Facilities account by major activity.

Answer. Unobligated funds cover costs for project contingencies, project planning and pre-design activities, and project planning. Also, unobligated funds are used for utilities, multi-year projects, emergency response activities, and prior year commitments not yet billed or paid. (See Attached Table.)

Question. Has the IHS identified any funds that are likely to be excess to construction projects at the end of FY 1995?

Answer. Yes, funds have been identified to be excess of the completed scope of work on a limited number of health facilities construction projects. These funds will be utilized in conjunction with a FY 1995 reprogramming action to fund completion and equipping the Ft. Belknap facilities. All other construction funds are/will be committed to on-going construction projects.

BUILT-IN COST INCREASES

The bulk of the increase in funding that the IHS is requesting for FY 1996 is due to built-in cost increases.

Question. Have past IHS estimates of medical inflation and other unpredictable increases been accurate? Does the IHS estimate such built-in changes using methods standard across other Federal agencies?

Answer. The IHS believes their estimates are accurate. The IHS receives deflators from OMB for medical, non-medical, and pay increases. The method IHS uses to determine the built-in cost is standard with other Federal agencies.

Though requested by the IHS and the Department, OMB apparently did not approve any increase based upon population growth.

Question. How much higher would the actual FY 1996 request be if population growth were included?

Answer. The FY 1996 President's budget request of \$2,059,022,000 would be \$2,100,399,000 if population growth request of \$41,377,000 was included.

PROGRAMMATIC INCREASES

As this Committee attempts to allocate scarce tax dollars in FY 1996 and beyond, it is increasingly important that agencies be able to demonstrate what those dollars are actually buying. The IHS budget request lists a number of impressive accomplishments to help answer this question.

FACILITIES
75 X 0391
STATUS AS OF SEPTEMBER 30, 1995
FINAL

AS OF OCTOBER 16, 1995

ACTIVITY	FY 1994 CARRYOVER (1)	REPROGRAMMED (2)	FY 1996 ACTUALS		
			APPROPRIATION (3)	OBLIGATIONS (4)	1+2+3-4+5 UNOBLIGATED (5)
New and Replacement	\$39,820,764	\$400,000	\$18,364,856	\$50,271,637	\$8,313,983
Outpatient Care	19,160,520	162,747	8,048,113	27,371,380	0
Personnel Quarters	11,628,987	(400,000)	410,700	9,403,286	2,236,401
Subtotal - Construction	70,610,271	162,747	25,823,668	87,046,303	10,550,384
Sanitation	12,483,117	(822,801)	80,408,693	92,069,209	0
Maintenance & Improvement	46,892,372	(1,430,351)	34,832,289	69,812,675	10,481,635
Facilities & Environmental Health Support	8,084,208	(825,588)	86,186,892 A/	87,400,427	5,945,086
Facilities/Space for Increase in Level of Need Funded	5,892,342	(808,858)	0	1,725,973	3,156,711
Modular Dental Units	1,000,000	(211,000)	998,090	1,787,030	60
Contract Support Costs	38,082	0	482,077	361,051	159,088
Joint Venture Demonstration	182,748	(182,748)	0	(210)	210
Equipment	0	0	9,159,188	8,206,368	2,952,790
Self-Governance	0	4,199,399	14,974,710	17,485,841	1,688,268
TOTAL	\$144,963,121	\$0	\$263,866,808	\$363,894,697	\$34,934,232

A/ Includes \$683,603 for reimbursements collected in FY 1996.

Question. For each of the non-facility programmatic increases included in the FY 1996 request, does the IHS have sufficient baseline data to evaluate whether these programs to be increased are effective?

Answer. The programs in question each have process and outcome performance measures. The women's health activity is monitored through process indicators such as, the number of adult women receiving pap screening at appropriate intervals, mammography screening at appropriate intervals, pre-natal visits at appropriate intervals, etc., and outcome indicators such as, the number of women diagnosed with carcinoma in situ, number of women with uncomplicated pregnancy outcomes, the number of deaths due to breast cancer, etc.

The effectiveness of elder services are measured in the use of appropriate immunizations, average length of hospital stay, ability of individuals to perform activities of daily living, the frequency of untoward drug interactions, and number of physician visits per year.

The effectiveness of epidemiologic services is measured in the effective identification of patterns and causes of disease influences in the population served by the Agency. It is measured in the effective targeting of health interventions that limit

expenditures to those diseases and health needs of highest significance. Current capacity for epidemiologic services permits monitoring broad trends over an Area or national basis. Increasing epidemiologic capacity will permit focused monitoring of specific disease conditions in local communities and the development of outbreak management and community intervention strategies.

Child abuse services are monitored through the rise or fall in the rates of reported child abuse, the effective clinical recovery of patients, and the rates of alcoholism and mental illness in communities.

GAO REPORT

An April, 1995 GAO report recommended several actions to improve the credentialing of temporary physicians.

Question. How does the IHS plan to address this problem?

Answer. The IHS is in agreement with the draft report's findings and recommendations. Although verification of licensure is a required part of the IHS credentials review process, IHS policy does not explicitly require all licenses held by the applicant to be verified as current and unrestricted. The IHS does thoroughly check all licenses held by physicians applying for temporary and permanent direct hire, however this has not always been possible for contracted locum tenens physicians when insufficient time precludes carrying out a full credential review before the locum tenens physician begins to provide patient care services.

In response to the recommendations, the IHS is revising its credentialing circular to require the verification of the status of all State medical licenses, both active and inactive, for all physicians including locum tenens, whether hired directly by IHS or through locum tenens companies. The IHS is also revising its contracting policies to require the inclusion of model language in contracts with locum tenens companies to verify and inform the IHS of adverse actions taken on all medical licenses before the locum tenens physician applies for medical staff privileges at an IHS facility.

The IHS is exploring ways to better disseminate information among IHS facilities on the performance of temporary physicians who provide services to the IHS. The IHS has added a question on the standard medical staff application form asking applicants to list all IHS facilities where he/she has been previously stationed. We are also examining the feasibility of including credentialing information on locum tenens physicians in an access-limited sub-menu of an Agency-wide electronic bulletin board. Another option strongly being considered is the use of a centralized credentialing process for the Agency.

ALLOCATION OF FUNDING

With a few relatively small exceptions, the FY 96 budget request would continue funding for IHS programs at current levels, with allowances for inflation, increased pay costs, etc. As nearly as I can tell, the request also proposes to allocate this funding in the essentially same manner as FY 1995. This raises a number of questions in my mind.

Question. How can I be certain that monies appropriated in FY 96 will purchase the greatest amount of health care for those who need it most? To put it another way, how can I be sure that funds will be allocated in such a way that tribes in area A will receive health care services similar to tribes in area B? What if Tribe A has greater health care needs than Tribe B?

Answer. The IHS allocates funds to maximize the overall health status of American Indian and Alaska Natives (AI/ANs) nation-wide. The IHS is not an entitlement program with a required health benefits package. Therefore, it does not necessarily provide the same services in each service area. The services provided to any particular Indian community will depend upon the facilities and services available from sources other than the Service and the financial and personnel resources made available to IHS. The history of equity allocations has been to provide more funds to tribes with greater needs compared with other tribes with lesser needs. These allocations have traditionally been based on new funds available from Congress. The IHS does not redistribute base budgets to increase equity between tribes.

The IHS considers health status and health status indicators in its allocations. All Areas and tribes have substantial health care gaps that are more severe overall than the general U.S. population. However, there is a great deal of variation among the tribes as to the overall health status index measurement for their members. Furthermore, there is a great deal of variation in the types of health status problems among the tribes. In one Area there may be more of a problem with infant mortality while accidents may be more of a problem in another Area, as shown in the IHS publication "Regional Differences in Indian Health." The choice of services is a local decision, especially under self-determination.

Question. Am I to assume that the distribution of funds in FY 95 was appropriate, and therefore the distribution in FY 96 will be appropriate?

Answer. In addition, to the greatest extent possible, distribution of funds takes into account as many factors as possible in light of applicable laws, congressional directives, and continuity of the various systems. These factors sometimes act to restrict IHS from reallocating recurring resources from better-funded tribes to less-well-funded tribes. Within these parameters, we believe the distribution of funds have been and will continue to be appropriate.

Question. How does the IHS make determinations on allocating operational funds? Is it purely population based? Income based? What factors go into these calculations?

Answer. The IHS has a formal written operating policy on budget execution (allocation of resources) IHS Circular 92-5. The IHS follows this policy in making the decisions related to the allocation of resources when funds are available for equity allocation.

The IHS uses needs-based allocation methodologies such as the Area Resource Allocation Methodology and the Health Services Priority System for large scale allocations. These methodologies determine allocations based on relative needs. Among the most significant factors involved are: historical workload, user counts, local costs, CHS dependence, health status levels, available resources from appropriations and third-party reimbursements, and Area needs. As such, allocation is based on a number of criteria rather than on a strict per capita basis. Those tribes with the greatest funding deficiencies based on those criteria stand to gain the most in new funding allocations based on these methodologies.

Several of the preventive services allocation methodologies use service encounter indicators as well as population to determine share to be allocated to each community.

Many of these allocations are made to the Area level where the Area in turn is to use needs-based criteria to allocate to the local service unit and facility. The criteria use are to be consistent with IHS Budget Circular 92-5.

Question. When was the last time the IHS made a comprehensive, area-by-area or tribe-by-tribe assessment of the health service needs of its service population? Setting aside the fluctuation in the quality of health care facilities from area to area, is the IHS confident that in FY 96 Indians in all areas will receive roughly the same level of health care?

Answer. The most recent Agency-wide level of need funded (LNF) calibration conducted was the FY 1992 Health Services Priority System. All analyses and projections since FY 1992 have been based on population growth, cost-of-living, and workload extrapolations applied with the same average rates for all tribes. The LNF assesses the relative ability to provide service at various Service Units and Areas. This LNF analysis made no distinction between tribally-operated programs and IHS-operated programs. This analysis makes no distinction in regards to the adequacy or inadequacy of the local health facility.

The IHS does maintain data on services delivered. These are summarized in the IHS "Regional Differences in Indian Health" report published annually by the Office of Planning, Evaluation, and Legislation. In addition, most IHS areas publish similar reports on a service unit/tribal basis.

IHS would choose to maintain current services at each Service Unit, provide staffing for new facilities, and fund some programmatic expansions in women's and elderly health, child abuse prevention, and epidemiology centers. Funds are not requested for equity allocation in FY 1996.

PROTECTED ACTIVITIES

Given the many unmet health care needs of certain Indian populations -- and given our current fiscal difficulties -- it is difficult to justify allocating Indian Health Service funds to tribes that have enjoyed significant increases in income from treaty-protected gaming activities.

Question. Does the IHS propose to reduce health care services for tribes, tribal organizations or individuals to offset tribal income or individual employment income from treaty or otherwise protected activities such as gaming?

Answer. The IHS does not propose to base health care services on individual or tribal income or resources. Though a very high percentage of individual IHS beneficiaries are poor, the IHS program was not established as a needs based welfare program. To do so would negate one of the prime benefits to tribes and their members which derive from their unique relationship with the Federal government and would call into question both their sovereignty and the Federal trust relationship.

Question. If so, what specific services are subject to being reduced? How is the amount of reduction determined? By formula? What is that formula? How is this reduction reflected in the budget request?

Answer. Indian Health Service does not plan to reduce health care services for American Indians and Alaska Natives based on tribal income or individual employment income.

Question. If not, why not? Is it not possible or desirable to determine a specific formula for reducing services to offset income derived from protected activities? Are there legal or legislative barriers to implementing such a reduction?

Answer. The IHS grew out of treaties and the resulting trust relationship.

Currently, the IHS "shall neither bill nor charge those Indians who may have the economic means to pay unless and until such time as Congress has agreed upon a specific policy to do so and directed the Indian Health Service to implement such a policy" (FY 1995 Interior Appropriations Act--P.L.103-332, language has been repeated for the last several years). Before considering or undertaking any policy change of this magnitude, it would be necessary to engage in extensive tribal consultations in keeping with the President's executive order that agency heads consult with tribes about all matters which affect them.

LANDS TRANSFERRED FROM THE DEPARTMENT OF DEFENSE

A number of tribes have expressed interest in assuming control over various properties and facilities that have been slated for closure by the Department of Defense. In some cases, these properties have been contaminated by past defense activities.

Question. Are you aware of any such instances that might impact the IHS? Is there a risk that the IHS might be forced to dedicate its limited resources to mitigating such environmental contamination?

Answer. Departmental policy prohibits accepting title to potentially contaminated property. Accepting title to any facility with contamination before the current owner completes clean up would subject the IHS to significant risk and diminish resources needed for environmental remediation at exciting IHS and tribal facilities.

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

INFRASTRUCTURE FOR ECONOMIC DEVELOPMENT

Dr. Trujillo, I know you are well aware of the economic situation of Indian Pueblos in New Mexico. Using your home area as an example, I am increasingly aware of the critical nature of IHS funding for water and sewer capacity at Acoma and Laguna Pueblos.

Question. While Acoma is actively pursuing new business ventures for her people, we keep coming up against the problem of water shortages. Are you aware of the tax incentives available to private businesses for developing infrastructure on Indian reservations?

Answer. IHS is aware of Section 13321 of the Omnibus Budget Reconciliation Act of 1993 which includes provisions for accelerated depreciation to private businesses that make improvements to tribal infrastructure, such as water systems that serve the public. Since IHS' authority is to address domestic (non-commercial/industrial) needs, it has not pursued the use of these tax incentives. However, the IHS will notify tribes of this opportunity so that they may attempt to attract private industry.

Question. Is the IHS developing any kind of policy to promote joint efforts to improve water and sewer projects at Acoma? The irony here is not a shortage of water in the ground, but rather a seeming reluctance on the part of IHS to engage in any effort to build the needed water lines to new water sources. At Acoma, requests have come to the IHS for over six years now, and nothing has been done, nor have any positive suggestions been made to alleviate the chronic water shortages at Acoma. Similar problems abound in Indian Country.

Answer. Congress appropriated approximately \$85 million for sanitation facilities construction projects in each of fiscal years (FY) 1993-1995. The Albuquerque Area IHS, from which the Pueblo of Acoma receives services, received a total of \$3.7 million and \$4.3

million, respectively in FY 1993 and FY 1994, for sanitation facilities. Of these amounts, approximately \$2.45 million, each year, were appropriated specifically for addressing projects on the priority list; the remaining funds were for sanitation facilities needed for new/renovated housing. The Albuquerque Area IHS will receive approximately \$4 million in FY 1995.

Unfortunately the Pueblo's request for IHS to design and construct a water transmission line from the Baca Ranch to Acoma Pueblo ranks low on the IHS sanitation facilities project priority list; however, if funded, it would require more than the Area's total anticipated FY 1995 allocation of funds made available to address the backlog of prioritized projects. In FY 1995, we expect that approximately \$45 million of the \$85 million will be directed toward diminishing the national backlog of sanitation deficiencies; the balance will be available for new and renovated housing. The national backlog of sanitation deficiencies currently estimated to be \$1.7 billion.

The Indian Health Care Amendments of 1988, (Public Law 100-713), Section 302, mandates that IHS use and uniformly apply a needs priority methodology. Considering the limited funding available and this mandate, IHS believes that providing special consideration for funding the design and construction of a water transmission line from the Baca Ranch to Acoma Pueblo would not be appropriate at this time.

Through joint efforts with HUD, the IHS has identified funding from HUD which will be available for the construction of water system improvements which are necessitated by proposed new housing on the Acoma Reservation. These improvements should provide short term benefits to the existing residents as well as to the new houses. The IHS staff has discussed the Acoma Pueblo water concerns with representatives from the Army Corps of Engineers, the Bureau of Reclamation, and Farmers Home Administration, but has been unable to locate an alternate source of construction funding for the water transmission line project. The Acoma Pueblo has recently informed the IHS that a \$200,000 grant will be forthcoming from the EPA for work on this project. We will encourage the Pueblo to use this funding to develop a master water plan for the Acoma Reservation. If such a plan can be developed, the Pueblo would be in a much stronger position to seek construction funding from other sources. The IHS will continue to assist the Acoma Pueblo to locate alternative funding sources for the water improvement project.

Question. Please give me a contact in your agency who can begin to explore the potential of combining the new tax incentives (in the Omnibus Budget Resolution of 1993) with IHS grants and loan guarantees so that new efforts to improve this needed infrastructure can commence.

Answer. Richard F. Barror, Chief of the Sanitation Facilities Construction Branch, would be the appropriate contact for discussions involving means for funding sanitation facilities. He can be reached on (301) 443-1046. It should be noted that IHS does not use grants or provide loan guarantees for sanitation facilities construction projects.

Question. In 1990, Secretary Sullivan visited this clinic at the Santo Domingo Pueblo. He agreed about the miserable conditions and promised to look into needed improvements. Five years later, nothing has been accomplished. Please explain to me why the IHS construction priority list continues to ignore this pressing problem.

Answer. The IHS uses a Health Facilities Construction Priority System (HFCPS) methodology to determine the relative priority of new and replacement health care facility needs. The methodology ensures that projects with the highest relative need

receive first consideration for funding. The proposed project was submitted during the last application of the HFPCS but did not rank high enough to be placed on the current IHS Health Facilities Construction Priority List for Outpatient Facilities. While many areas and programs are deserving of support, IHS has established resource allocation methodologies to ensure equitable distribution of health resources and the most urgent needs are addressed as soon as possible.

QUESTIONS SUBMITTED BY SENATOR ROBERT BENNETT

UTAH NAVAJO HEALTH CENTER

The steering committee for the Montezuma Creek project consisted of residents of Arizona with no representation from Utah. While the original site for the new clinic was Montezuma Creek, the steering committee recommended that the site be changed to a highway junction 5 miles across the Arizona state line in the Red Mesa Chapter.

For reasons still unclear, senior officials within the Navajo Area IHS have consistently resisted efforts by the Utah Navajo elected officials and the State of Utah to discuss how to best meet the health care needs of Utah Navajo. Even the program manager overseeing IHS construction projects in other areas of the Navajo nation, reports that she has never seen the lack of cooperation that is apparent in this project.

According to IHS data, 44% of the user population for Red Mesa will come from Utah. Once the Montezuma Creek site is closed, that 44% will have no other health care option while the remaining 53% will have several options to choose from - Shiprock. The Red Mesa site will in effect deny almost half of the population - which already has a low status of health - access to health care while expanding options for the other half.

Question. Can you explain why Utah is not considered for increased health care services when the health status of American Indians in Utah is lower than the general population and only one IHS facility is available for 8 federally recognized tribes and over 25,000 people? Given the conditions in Utah, will you agree with the need for improved services in Utah?

Answer. The base budgets of IHS service units are based on historical allocations which are augmented periodically as new resources become available. When new resources are available, the Phoenix and Navajo Area IHS Offices distribute funding to all service units within their jurisdiction. Consequently the tribes of Utah realize increased access to augmented services when new funding is distributed. Periodically, Congress has appropriated special funding for the purpose of achieving greater equity among the tribes. When such funding is available, a level of need funded (LNF), inclusive of health status indicators, is calculated for each tribe and funding is distributed accordingly. The IHS recognizes that there is a great need for new and replacement facilities on many reservations and has established a priority system for construction of new facilities. Every service unit has an opportunity to submit a request to the Area Office for consideration.

The IHS health care delivery system is organized into service units that provide care either through a Federally operated facility or through contracts with private providers supported by Contract Health Services (CHS) funding. The service units serve members of Federally recognized tribes residing on or near Indian reservations or villages. Many of the reservations contain more than one Federally recognized tribe and the boundaries may transcend State lines. Consequently, some of the tribes near the Nevada, Idaho, Colorado and Arizona State lines obtain their health

care at service units in adjacent states or may use local private providers with CHS funding support. The Uintah-Ouray Service Unit facility primarily serves the eligible Indian population residing on or near the reservation. Other tribal members not residing on this reservation may also use this service unit if traveling distances are within their means.

Services to the Utah Navajos have increased as a result of new services added to the newly constructed Shiprock hospital and will increase even more when the planned Red Mesa/Montezuma Creek facility becomes operational. The proposed facility at Red Mesa, Arizona, 38 kilometers (23 miles) from Montezuma Creek, Utah, would be available to 85% (8,388) of the service unit population who reside within 50 kilometers of the site. Current services will be expanded and new services added along with additional staff.

In addition, if the IHS receives the \$1.2 million increase for Urban Indian Health Programs, the urban program in Salt Lake City will receive a share, thereby increasing the services provided to urban Indians in that area.

Question. Would you also please comment on why Navajo Area IHS officials have rejected the recommendations of the Navajo Nation Division of Health, Office of Special Projects in considering the health concerns of the Utah Navajo and the closing of the Montezuma Creek facility.

Answer. The Navajo Area IHS has complied with the decisions of the duly designated governmental bodies of the Navajo Nation as expressed in several resolutions passed by various components of the Navajo Nation government. The IHS respects the sovereign nation status of duly elected tribal governments and does not intervene in their governmental or administrative processes. The IHS has cooperated extensively with the Office of Special Projects in the planning of the replacement facility.

Question. What action do you recommend IHS take to ensure that Utah Navajo's receive quality health care without being forced to travel over 60 miles to receive it?

Answer. The IHS seeks to ensure that all eligible recipients of care, including the Utah Navajos, will have adequate access to ambulatory and inpatient care in accordance with criteria established for the construction of health care facilities. Eighty-five percent of all eligible Indians residing in the Red Mesa/Montezuma Creek service area, including the majority of Utah Navajos, would have access within 25 miles or 30 minutes to the proposed Red Mesa site. Only Blanding, Monticello, and Bluff, Utah are beyond the access criteria. Conversely, 47% of the population primarily residing in Arizona, would lack sufficient access to the Montezuma Creek site. As indicated previously, the IHS does not organize services along State lines.

The IHS applies all known and established standards of health care to the services it provides and requires that all facilities be JCAHO accredited.

Question. Is it possible to restructure the committee to ensure that Utah Navajo interest are represented more fully in the future?

Answer. As stated previously, the IHS observes the sovereign status of the Navajo Nation and has no power to determine the structure of its government or membership of its committees.

If the current recommendations is followed and the Montezuma Creek clinic is closed upon completion of Red Mesa, 4,200 Utah Navajo's will have access to no other health care facilities in the Utah portion of Red Mesa's service area.

Question. Do the areas to be served by the Red Mesa facility already have access to services from other facilities such as Shiprock? If this is the case, what is the reasoning behind building another facility within that service area if the needs of those in Montezuma Creek are neglected and a large percentage of the population are forced to travel long distances to receive services?

Answer. None of the communities within the Red Mesa/Montezuma Creek service area are within the 25 mile or 30 minute radius of Shiprock for ambulatory care. The Shiprock hospital would continue to serve as the center for inpatient care for this service area. As stated previously, 85% of the population, including Montezuma Creek, would have adequate access to the ambulatory, short stay nursing, and emergency services that are proposed for the Red Mesa site.

Question. How does this affect the IHS mandate to provide accessible health coverage to Native Americans?

Answer. The Health Facilities Construction Priority System (HFCPS) criteria was developed and is applied to assure adequate access to services that meet the minimum thresholds for workload and population. If construction of a facility is not warranted, access to needed care is provided through contracts with private providers.

There are also been little support from the Navajo Nation Health and Social Services committee. The Chairwoman of the committee has stated that the numbers of Navajo living in Utah is "insignificant". They suggested that if the State of Utah is so concerned with the Utah Navajo, the State should build the clinic. The Utah Department of Health recognizes the obligation of IHS to provide care on the reservation but has offered to provide assistance in meeting special health care needs.

Question. What efforts might IHS make to provide technical expertise to the Navajo Nation Health and Social Services committee, the state of Utah and the Utah Navajo to provide improved services in the Montezuma Creek area and prevent the interruption of services?

Answer. The IHS approaches the planning and development of new services and facilities in a cooperative manner and consults with the affected tribe or tribes. The planning methodologies and criteria used to determine appropriate services are shared with all interested parties. It is anticipated that the new replacement facility would improve services for all of the population residing in the Red Mesa/Montezuma Creek service area. New staff and services will be added and services will be more readily accessible to the majority of the population.

Question. Is it possible that IHS can play a role in forging a stronger working relationship between the Navajo Nation and Utah Navajos? Does helping these parties come to agreement fall within the IHS mandate to provide health care to Utah Navajos?

Answer. The IHS seeks to assure that the health care needs of all eligible Indians residing on or near reservations and villages are adequately addressed. In the planning phase of a proposed facility, the IHS seeks the participation of tribes in defining the concept and programs to be provided as well as the design of the facility. Several components of the Navajo Nation, inclusive of the Utah chapters were represented in the site selection and planning of the concept of operations. Consequently, the needs of the total population in the Red Mesa/Montezuma Creek service area have been accounted for including the Utah Navajos. The needs of all Indian user population were considered without regard to State lines.

Question. What role might the Utah State Department of Health play in the future as this issue is resolved?

Answer. As the trustee of the Utah Navajo Trust Fund, the State of Utah is empowered by law to expend resources for health. Consequently, the State could cooperate in the planning, development, and support of appropriate services as well as the construction of a facility in the Montezuma Creek area that would serve both the Indian and non-Indian population. The State has expressed concern for maintaining services to the non-Indian members of the Montezuma Creek area. With contract health care funds the IHS can purchase needed care from other providers and could compensate a State-operated facility for pre-approved care provided to the eligible Indian population.

QUESTIONS SUBMITTED BY SENATOR DON NICKLES

Question. I understand that the Choctaw Nation of Oklahoma has approached your office with an innovative way to replace the old Talihina Indian Hospital. What is their approach and how does it differ from the normal direct federal construction process that the Indian Health Service has used in the past?

Answer. The proposal calls for the Choctaw Nation to provide:

- a site for the replacement facility.
- the resources to finance, design, and construct the replacement facility at no cost to the Indian Health Service (IHS).
- an opportunity for the IHS to review and comment on all design documents at IHS expense and within the design schedule.
- no additional requests for resources to operate the new facility when it is opened but reserves the right to request additional resources at a later date if needed.

The Indian Health Service through Congress would:

- lease the facility from the Choctaw Nation at no cost to the IHS.
- provide the necessary new equipment resources through reprogramming existing IHS construction dollars for equipment dollars for a one-time expenditure.
- allow the Choctaw Nation the flexibility to utilize any services or third-party resources contained in the Choctaw Nation's Self-Governance Compact and Annual Funding Agreement towards the project.
- not provide any new additional resources for operational costs or staffing subsequent to the opening of the facility.

Although an evaluation of the proposal and discussions with the Tribe are ongoing, the proposal differs from the direct federal construction process in that there are no costs to the government for design and construction. Additionally, the proposal furthers the policy of self-governance and self-determination by the tribes.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

HEALTH ISSUES

The Mississippi Band of Choctaw Indians is seven months into its first IHS Self-Governance agreement. Overall, this is working very well for the tribe because it allows the Choctaws to convert funds previously spent at the IHS area and headquarters levels into direct health services on the reservation. The tribe is entering

into negotiations for its second year and IHS wants to now reduce our share of the area office funds by 93% or over \$950,000. The Nashville Area Office informed the tribe on May 3, 1995 of this decision. The area office has stated that it will fund only what "it is able to fund" and that it has "legal obligations" which prohibit its funding our shares at 100%. These "legal obligations" are, according to the area IHS, positions at the area office for which RIF authority does not exist.

The Choctaws are currently using their self-governance funds to meet budget shortfalls in contract health care and unmet needs. In addition, the tribe is also using nearly a million dollars in its own resources to fund such health care needs as dental care for children and the elderly, non-emergency surgery, and the purchase of medical specialty care from off-reservation providers. The tribe has anticipated receiving its FY 1996 shares and has budgeted accordingly, hiring additional medical staff, pharmacy, and public health nursing staff. If the IHS refuses to downsize and honor its agreement with the tribe, then the tribe will have to reduce its staff and services.

Question. What specific action is the Director/IHS taking to require that Area Offices such as Nashville negotiate and fully fund tribal shares for 1996?

Answer. The Director has issued a directive to all Area offices requiring them to develop restructuring and downsizing plans that outlines the actions that are necessary to fund 80% of the Area office tribal shares negotiated in FY 1996. These plans are to be developed in conjunction with tribal participation.

The Office of General Counsel has issued another opinion that keeps IHS construction out of Title III self-governance and only allows tribes to administer construction as a Title I contract. It is contrary to the intent of Self-Governance.

Question. What further legislative direction does the Director need in order to follow Congressional intent and insure that all possible IHS programs and functions, including construction, be authorized for tribal administration under a Self-Governance compact?

Answer. Based on legal review of existing statutory language by the Office of General Counsel, there are a number of programs and functions that will require legislative language for tribal administration under a Self-Governance compact. They are as follows; Federal construction, prompt payment, transfer of real property, CHEF program, Scholarship program, direct reimbursement of Medicare and Medicaid collections, and payment to IHS for services.

The IHS Office of Environmental Health and Engineering (OEHE) has continually resisted turning over to tribes its responsibilities even though many tribes, such as Choctaw, when given the money now spent for federal OEHE engineering and environmental health positions, can operate more efficiently by hiring local staff or contracting with local engineering firms. The OEHE uses the argument that OEHE staffing patterns are tied to workload and that large staffs must be maintained at the ready to move from project to project. This suggests to us that the OEHE considers its functions to be beyond tribal capability.

Question. What further legislative direction does the Director/IHS need to follow Congressional intent and insure that The IHS OEHE programs be authorized for tribal administration under Title III?

Answer. Presently 95% of the Facilities Appropriation of \$253,282,000 in FY 1995 goes to support program activities and projects which benefit Indian people. In accordance with

Congressional directive, Facilities funds are made available to compacting and non-compacting tribes using a needs-based, or workload approach which distributes resources to individual tribes based on their share of the total workload. Presently, only 12.7% of the funds are not eligible for compacting because they support the costs for construction and personnel support to construct health care facilities. The IHS is exploring other funding mechanisms in an effort to identify alternative ways for tribes to be involved in the construction of their health care facilities.

The IHS has an obligation to pay contract support on all funds that each tribe used for direct service operations. The source of the funds can not be the determining factor for allocating contract support. Use of the funds must be the determining factor. The IHS always has a contract support shortfall and unfortunately, the perception grows that this is somehow the fault of the tribes. The root of the problem is the IHS refusal to downsize. IHS has the funding to support direct and contract support health care, but the funding is currently allocated to supporting IHS staffing. The IHS must allocate the FTE savings from staff reductions to pay for tribal health program direct and indirect costs.

Question. What IHS staff downsizing can the agency show that it has completed to fund its contract support obligations to contracting and compacting tribes.

Answer. The IHS pays contract support costs to tribes according to the criteria contained within the authorizing statute, the Indian Self-Determination and Education Assistance Act, P.L. 93-638, as amended.

The Agency has established an Indian Health Design Team to design an improved Indian health care system that will address future federal downsizing and workforce ceilings. The team, which has extensive participation of tribal representatives, will examine the issue of streamlining of the IHS (e.g., staff downsizing) and how resources should be directed in the future.

SUBCOMMITTEE RECESS

Senator BENNETT. The subcommittee will stand in recess until 9:30 a.m., Wednesday, May 17, when we will receive testimony from the Park Service.

[Whereupon, at 2:17 p.m., Thursday, May 11, the subcommittee was recessed, to reconvene at 9:30 a.m., Wednesday, May 17.]



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